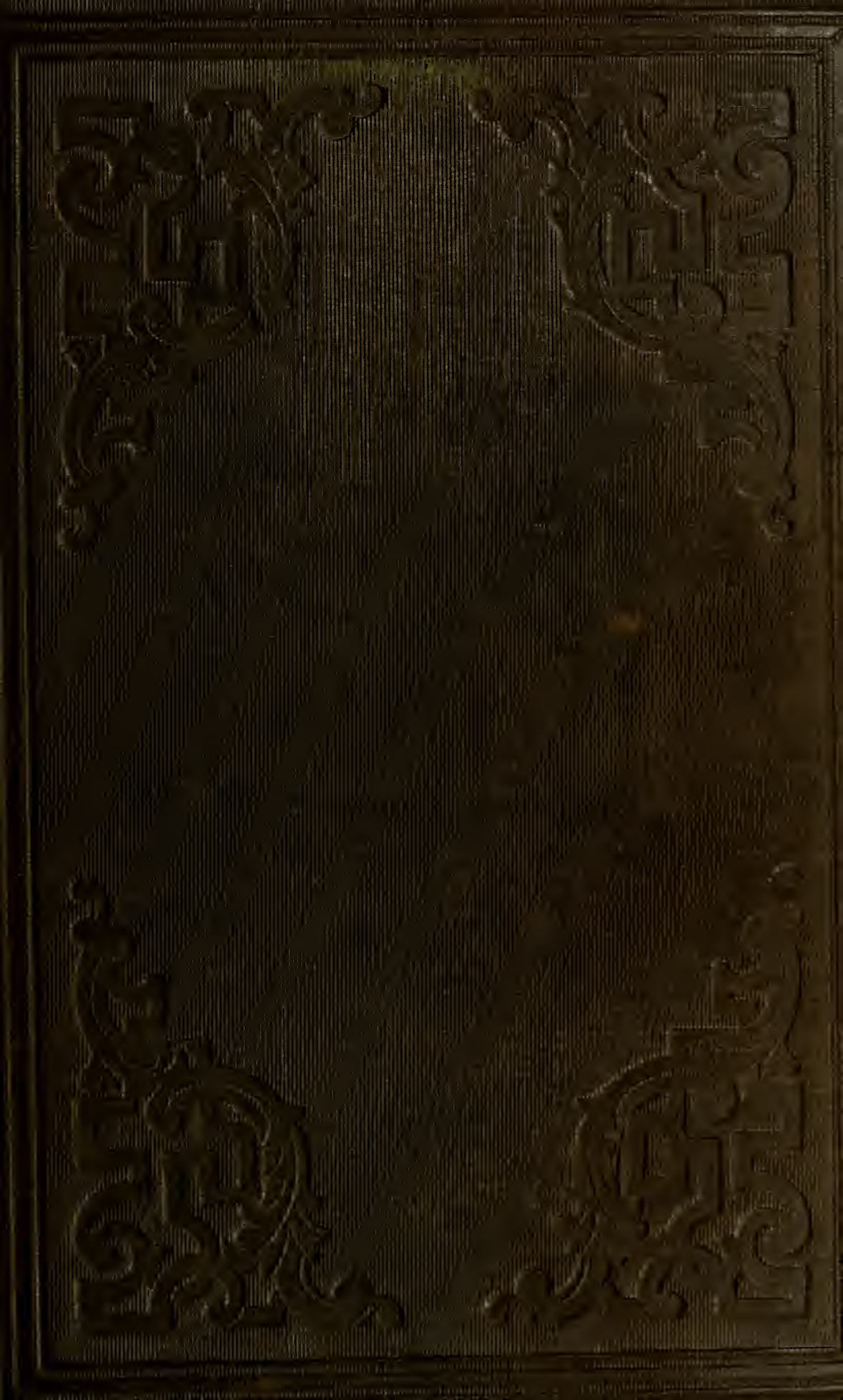

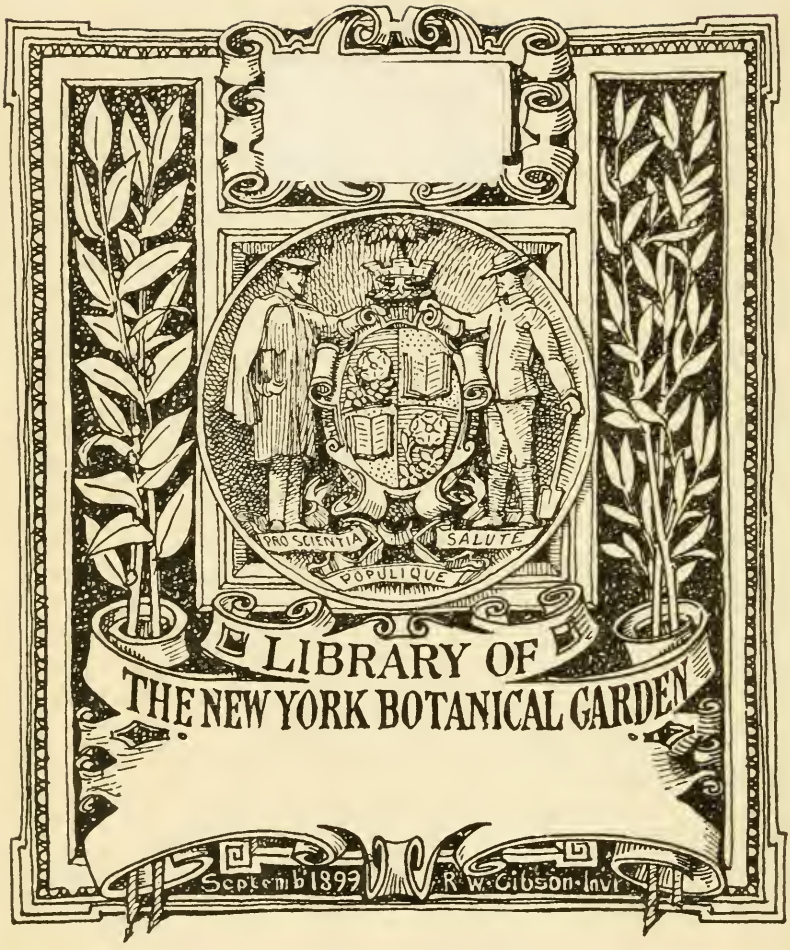
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TRANSACTIONS

OF THE

N. Y. State Agricultural Society,

WITH AN

ABSTRACT OF THE PROCEEDINGS

OF THE

COUNTY AGRICULTURAL SOCIETIES.

VOL. XII.—1852.

ALBANY:
C. VAN BENTHUYSEN, PRINTER TO THE LEGISLATURE.
No. 407 Broadway.
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NOTICE.

The Twelfth Volume of the Transactions of the State Agricultural Society is submitted to the farmers of the State, with a hope that, like its predecessors, it will be found interesting and valuable. Many of the papers contained in this volume will be of permanent value, and calculated to improve the farming interest of our State and Country. The increased demand for the reports of the Society, as they annually appear, evinces the position they hold in the minds of intelligent men, not in our own country only, but in all parts of Europe. This should stimulate us to greater efforts to make each succeeding volume more valuable than any that has preceded it.

In this volume will be found the last address of the lamented Prof. NORTON, whose labors in the cause of Agriculture had been so successful, and who had contributed by his communications in former years to increase the value of our Transactions.

In the preparation of the volume, the subscriber has received important aid from many gentlemen whose contributions are given—and it is hoped that this volume will accomplish what it is designed to do—the elevation and advancement of the great interest of American Agriculture.

B. P. JOHNSON,

Agricultural Rooms, March, 1853. *Secretary.*

ERRATA.

Page 273, 11th line from top, read "marshes" for "ponds."
282, 14th " " "West" for "heat."

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CONTENTS OF VOLUME XII.

1. Report of Executive Committee, ... 3
2. Report of Judges at Utica, ... 82
3. Annual Meeting, 1853, ... 171
4. Reports at Annual Meeting, ... 201
5. Communications, ... 243
6. County Societies, ... 357
7. Survey of Essex County, ... 650

A.

Annual Report, ... 3
Address at Fair, Hon. H. Seymour, ... 23
Award of premiums, ... 43
Ages of stock, decision of Executive Committee, ... 49
American Linen Company, report, ... 92
Annual Meeting, 1853, ... 171
Award premiums, annual meeting, ... 180
Address of President, H. Wager, ... 188
Atkin's Self Raker, ... 112
Awards on implements tried, ... 123
Ayrshire cattle, report, ... 145
Annual exhibitions, committee appointed on, ... 177
Amendment to constitution, ... 176
Amendment, notice of Mr. White, ... 175
Analysis, Vegetable Oyster, ... 323
Carrot, ... 326
Beet, ... 328
Endive, ... 331

Analysis, Celery,..... 333
Melon,..... 335
Cucumber, ... 337
Albany (Coeymans report),..... 358
Allegany County report,..... 359
Agricultural Education, H. Murray, ... 496
Arden, T. B., address, ... 514
Agricultural College, Dr. Asa Fitch, ... 621

B.

Burrall's Reaper,..... 112
Butter, J. Ballard's statement,..... 213
H. Worden, ... 214
Beef and Pork, curing of, ... 257
C. Seguine's statement, ... 274
T. F. De Voe's " 282
J. F. Wight's " 285
T. Grant, London, statement,..... 287
B. P. Johnson's " 295
Breeding Animals, S. Howard, ... 297
Bement, C. N., Ozier Willow, ... 315
Broome County report,..... 360
Battey, Jonathan, address, ... 380
Byington, A., address, ... 487
Bowne, Hon. O., address,..... 544

C.

Cultivators, trial of, ... 122
Clapp, Horace, dairy,..... 202
Cheese, report on,..... 161
Statement of Moses Eames,..... 214
Clover, F. N. Toby's statement, ... 219
Cook, Prof. G H., on value of Solar Salt,..... 257
Cayuga County report, ... 364
Chautauque " 366
Chemung " 368
Chenango " 371
Clinton " 374
Columbia " 384

Cortland County report,..... 386
Coppock, W. R., address,..... 401
Corn crop, H. B. Cropsey,..... 541

D.

Danford & Co's Reaper,..... 113
Densmore's Reaper,..... 114
Drills tried,..... 117
Drills, awards,..... 139
Devon Cows, report,..... 142
Dairy, report on Butter,..... 157
report on Cheese,..... 161
Discretionary reports,..... 82, 166
Dairy Buildings, report,..... 201
Draining, report,..... 203
De Voe, Thos. F., statement of process of packing beef,.... 282
Doubleday, Ammi, report of Broome county,..... 370
Delaware County report,..... 387
Dutchess " 390
Products, Fruit, &c.,..... 396
Dairies, Herkimer,..... 412

E.

Entomology, Prof. Goadby,..... 252
Edgecomb, Jonathan, report,..... 353
Erie County report,..... 397
Products,..... 400
Essex County report,..... 643
Essex County Survey, report on,..... 644
Eastman's potato experiment,..... 342

F.

Farm implements, report,..... 152
Fruit, reports,..... 76, 80, 222
Franklin County report,..... 404
Fish, A. L., address to Judges,..... 414
Fruit and fruit growing, Herkimer,..... 417

G.

Grain statements, ... 215
Winter Wheat, Ira Apthorp, ... "
Spring Wheat, C. W. Eells, ... 217
Oats, E. M. Bradley, ... 218
Goadby, Prof. on Entomology, ... 252
Grant, Thos., statement in relation to curing Beef and Pork, 287
Grasses, varieties recommended, ... 311
Gould, J. Stanton, report, ... 349
Greene County report, ... 405
Geddes, Geo., address, Oneida, ... 470

H.

Hussey's Reaper, ... 115
Horse Powers tried, ... 132
Horse Powers, awards, ... 139
Hereford Cattle, ... 141
Horses, thorough-bred, report, ... 150
Howard, Sanford, on Breeding Animals, ... 297
Herkimer County report, ... 406

I.

Implements tried at Geneva, ... 95

J.

Johnson, B. P., report of World's Fair, 1851, ... 179
Statement in relation to curing Beef and Pork, ... 295
Report on Maryland Fair, ... 345
Jefferson County report, ... 420
Productions, ... 423

K.

Ketchum's Mower, ... 106
King, Hon. Charles, address, ... 531
Knowlton, S., address, ... 558

L.

Lewis County report, ... 436
Livingston " 440
Linter, Rev. Dr., address,.. 572

M.

McCormick's Reaper, ... 112
Manny's Reaper and Mower, ... 105, 113
Mowers, awards, ... 138
Milch Cows, report,..... 148
Machinery, report,..... 153
Maryland State Fair, report of delegates, ... 345
Madison County report, ... 441
Monroe " 445
Montgomery " 448
Products of, ... 451
McDonald, John, report on trial of implements at Geneva,.. 617

N.

Needle work, report,..... 165
Norton, Prof. J. P., lecture,..... 243
Niagara County report, and products, ... 454

O.

Ozier Willow (Bement),..... 313
Ohio and Michigan Fairs, report of delegates,..... 353
Oneida County report, ... 460
Products, ... 467
Onondaga County report,..... 478
Ontario " 483
Orange " 484
Orleans " 485
Oswego " 491
Products, ... 501
Otsego County report,..... 503

P.

Potatoes, P. Crispell, jr., statement, ... 221
Pigs, fattening, J. Winne's statement, ... 224

Potatoes, experiments in raising,..... 342
Putnam County report,..... 513

Q.

Queens County report, ... 526

R.

Ruggs' Mower and Reaper, ... 107
Reapers, awards, ... 138
Rhode Island Society, report of delegates,..... 349
Rural Life, essay on,..... 518
Richmond County report,..... 540
Roclkand " 547
Rensselaer " 551

S.

Seymour & Morgan's Reaper,..... 114
Seed Planters tried,..... 120
Award,..... 141
Sowers, broad-cast, award,..... 141
Sheep, Middle Wooled, report, ... 150
Saxon,..... 151
Swan, R. J., draining,..... 204
State Asylum, draining,..... 207
Science and Agriculture, Prof, Norton's lecture, ... 243
Seguine, C., statement in relation to curing Beef and Pork,. 274
Salisbury, J. H., analysis, ... 323, 337
Sherman, J. A., address,..... 427
St. Lawrence County report, ... 549
Saratoga " 556
Schoharie " 572
Seneca " 577
Sullivan " 580
Products, ... 582

T.

Thrashing Machines tried, ... 125
Awards, ... 140
Tallcott, Jonathan, draining, ... 209

Treasurer's report,..... 226
Tioga County report, R. Howell,..... 587
Farming, Henry Young,..... 590
Tompkins County report,..... 597

U.

Ulster County report, ... 599

W.

Wight, Jas. F., statement in relation to curing Beef and Pork, 285
Wilcox's, Rodney, farm,..... 407
Wilson, H. C., essay on Rural Life, ... 518
Washington County report, ... 600
Products, E. H. Newton, ... 600
J. Savage, ... 606
W. Forbes,..... 608
H. Brown,..... 609
Wheat, Corn, &c., ... 611
Potatoes,..... 613
Trial of implements at Geneva, J. McDonald's report, 617
Wayne County report, ... 623
Watson, Joseph, report of farming and profits,..... 625
Wayne County products, ... 629
Westchester County report, ... 634
Wyoming " 638
Products, ... 639

Y.

Yates County report, ... 642

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BEEKMAN, J. P., Kinderhook.
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WADSWORTH, WM. W.,* Geneseo.
WELLS, EDWARD, Johnstown.
WHITE, HOLLIS, Niagara.
WATSON, WILLIAM, West Farms.
WAINWRIGHT, C. S., Rhinebeck.

* Deceased.

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—

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LEWIS G. MORRIS, Mount Fordham, Westchester county.

Vice Presidents,

1st district, RICHARD L. ALLEN, New-York.
2d district, WILLIAM KELLY, Rhinebeck.
3d district, GEORGE VAIL, Troy.
4th district, JOHN BEEKMAN FINLAY, Saratoga Springs.
5th district, GEORGE GEDDES, Fairmount, Onondaga county.
6th district, R. H. VAN RENSSELAER, Morris, Otsego county.
7th district, JOEL W. BACON, Waterloo, Seneca county.
8th district, SILAS M. BURROUGHS, Medina, Orleans county.

Corresponding Secretary,

B. P. JOHNSON, Albany.

Recording Secretary,

ERASTUS CORNING, Jr., Albany.

Treasurer,

B. B. KIRTLAND, Albany.

Executive Committee,

THEODORE C. PETERS, Darien, Genesee.
J. T. BLANCHARD, Saratoga Springs.
WILLIAM BUELL, Rochester.
CHARLES MORRELL, Ludlowville, Tompkins county.
JOHN A. SHERMAN, Rutland, Jefferson county.

Ex Presidents, ex officio members,

LEWIS F. ALLEN, EZRA P. PRENTICE,
JOHN A. KING, JOHN DELAFIELD,
HENRY WAGER.

CONSTITUTION OF THE NEW-YORK STATE AGRICULTURAL SOCIETY.

The style of this Society shall be "The New-York State Agricultural Society." Its objects shall be to improve the condition of Agriculture, Horticulture, and the Household arts.

SEC. 1. The Society shall consist of such citizens of the State as shall signify in writing, their wish to become members, and shall pay on subscribing not less than one dollar, and annually thereafter one dollar, and also of Honorary and Corresponding members.

The Presidents of County Agricultural Societies, or a delegate from each, shall ex officio be members of this Society.

The payment of ten dollars or more shall constitute a member for life, and shall exempt the donor from annual contributions.

SEC. 2. The officers of the Society shall consist of a President, eight Vice Presidents, one to be located in each Judicial District; a Recording Secretary, a Corresponding Secretary, a Treasurer, an Executive Committee, to consist of the officers above named, and five additional members, and five of the Ex-Presidents shall be ex officio members of the Executive Committee, and these five shall consist of the five Ex-Presidents whose term of office has last expired, of whom three shall constitute a quorum; and that the Ex-Presidents of the Society, not members of the Executive Committee, shall constitute a Board of Councellors, to which may be referred, for consultation and advice, all questions that may from time to time arise, and in the decision of which the Society may in any manner be interested; and a General Committee, the members of which shall be located in the several counties, and be equal to the representations in the House of Assembly.

SEC. 3. The Recording Secretary shall keep the minutes of the Society. The Corresponding Secretary shall carry on the corres-

pondence with other Societies, with individuals and with the general committee, in the furtherance of the objects of the Society.

The Treasurer shall keep the funds of the Society, and disburse them on the order of the President or a Vice President, countersigned by the Recording Secretary, and shall make a report of the receipts and expenditures at the annual meeting in January.

The Executive Committee shall take charge of and distribute or preserve all seeds, plants, books, models, &c., which may be transmitted to the Society; and shall have also the charge of all communications designed or calculated for publication, and so far as they may deem expedient, shall collect, arrange and publish the same in such manner and form as they shall deem best calculated to promote the objects of the Society.

The General Committee are charged with the interests of the Society in the counties in which they shall respectively reside, and will constitute a medium of communication between the Executive Committee and the remote members of the Society.

Sec. 4. There shall be an annual meeting of the Society on the second Wednesday of February, in the city of Albany, at which time all the officers shall be elected by a plurality of votes and by ballot, with the exception of the General Committee for the counties, which may be appointed by the Executive Committee, who shall have power to fill any vacancies which may occur in the officers of the Society during the year. Extra meetings may be convoked by the Executive Committee. Fifteen members shall be a quorum for the transaction of business.

Sec. 5. The Society shall hold an Annual Cattle Show and Fair at such time and place as shall be designated by the Executive Committee.

Sec. 6. This Constitution may be amended by a vote of two-thirds of the members present at any annual meeting, upon one year's previous notice in writing.

State Agricultural Rooms,
February 9, 1853.

I certify the above to be a true copy of the Constitution of the New-York State Agricultural Society.

B. P. JOHNSON,
Cor. Secretary.

State of New-York.

No. 112.

IN ASSEMBLY, MAR. 30, 1853.

COMMUNICATION

From the Corresponding Secretary of the New-York State Agricultural Society.

STATE AGRICULTURAL SOCIETY,
March 29, 1853.

To the Hon. WILLIAM H. LUDLOW,
Speaker of the Assembly:

In pursuance of the acts of the Legislature for the promotion of Agriculture, I present herewith the annual report of the New-York State Agricultural Society, with the proceedings of the Executive committee, and abstracts of the reports of county societies for 1852.

Very respectfully yours,
B. P. JOHNSON,
Cor. Secretary.

TRANSACTIONS

OF THE

New-York State Agricultural Society.

Report of the Executive Committee for 1852.

TO THE LEGISLATURE OF THE STATE OF NEW-YORK:

The Executive Committee of the New-York State Agricultural Society pursuant to the act for the encouragement of Agriculture,

RESPECTFULLY REPORT:

That during the past year, the operations of the Society have been carried forward with an increase of interest over those of any former year; and the results of their operations will be found in the proceedings which accompany this report. In no former year have the evidences of progress in every branch of agriculture, and the mechanic arts connected with it, been of a more cheering character. In the various departments of the operations of the farm, a perceptible advance is witnessed; and improvements are being carried into effect in almost every county in the State, which, a few years since, would have been regarded as utterly impracticable.

The subject of draining, which has been brought prominently before the public through the exertions of the Society, and which,

when first presented to the attention of our farmers but a few years since, was received with distrust, now attracts attention in every quarter; and among the papers which accompany this report, will be found the statement of *a single farmer*, who has laid during the year, seventy-two thousand five hundred and fifty drain tile, in trenches, varying from two and a half to three feet in depth; making five thousand four hundred and ninety-six rods, equal to 17 miles and 56 rods. The whole cost of this expenditure was 12½ cents per rod for the tiles; and the expense of preparing the trenches and laying the tiles, was 15½ cents per rod. Nor is this a solitary case, as there have been in various sections of the State, tiles laid to a large extent, though in no instance has such extensive work been performed as in the case referred to. When it is remembered that in 1848, John Delafield, Esq., of Seneca county, introduced the first tile machine into this State, and that for a considerable period it turned out more tile than there was demand for, while at the present time, there are, it is believed, at least from twelve to fourteen machines in operation, and the demand for tile is nearly equal to the entire power of all the machines, some idea may be formed of the progress which has been made. That this has been so, results from the facts which have been presented to the consideration of practical farmers, of the great advantages resulting from thorough draining where needed. In one county in this State, in 1849, the entire saving of the wheat crop upon the drained lands, as compared with the crops upon land undrained in the same county, which suffered severely, was more than sufficient to have drained the other portions of the county under wheat cultivation.

It has been the constant endeavor of the Society to impress upon the minds of our farmers, that to enable them to meet with success the competition which increased facilities by railroads and other channels of communication are opening up to the fertile western states, they must improve, not only their system of husbandry, but must also adapt themselves to the circumstances in which this competition places them. To do this effectually, a new system of farming must, in a measure, at least, be adopted,

and crops, which were once the leading ones in our State, must give place to those of a different character.

The returns of the last census most clearly show that this has taken place to a considerable extent already; and the general prosperity of the farmers of our State, and the successful result of their operations the past year, show, that their labors have, in the main, been well directed. The wheat crop has decreased, from a less number of acres devoted to its culture; a crop which the west can raise and send to market, so as to compete with us successfully. Indian corn, rye, oats and barley, which will not bear transportation so well, have largely increased since the last State census.

Our dairies have also very materialy advanced, not only in the quantity of butter and cheese, but in quality also; and what is most encouraging, while the increase in quantity of butter has been 264,361 pounds, and of cheese 12,991,437 pounds, the number of milch cows, since the last State census, has decreased 68,066, showing most clearly that the efforts of the Society in elevating the standard of our daily products, and in improving the character of our dairy animals, have been most gratifying. The average yield of cheese per cow, as estimated in 1845, was 110 lbs. each; and the yield in 1850, adopting the same standard of estimate, gives a fraction over 160 pounds each, showing an increase per cow, at the average prices at which cheese was probably sold by the farmers, six cents, of about $37.50 each=to$1,162,916.12, for the whole number of cows in the State employed in the cheese dairies alone; a revenue to the farmers engaged in this business, equal to nearly one-half the annual revenue of our canals. The increase in butter, though not as large, is still very satisfactory, and shows most conclusively the advance which has been made in this department of agriculture; and in which, from the character of our soils and climate, and the facility of our markets, we are not likely to be superseded by any section of our country.

The Society have ever kept before the minds of the farmers of our State, the importance of doing well what they did do; and the premium farms to which awards have been made from year to

year, give assurance that the exertions which have been made, have not been without effect. From the statement of one of the competitors, Mr. Albert G. Ford, a dairy farmer of Herkimer county, which will be found in the Transactions of 1851, it will be seen, that his yield of cheese per cow, has averaged, for the last three years, upwards of 600 pounds per cow. Should this ratio be continued throughout the State, or even to 400 pounds the cow, the increase would amount to several millions of dollars per annum; and we see no good reason why this may not, in a good degree, at least be expected.

In a report made to the Society in 1846, by the present Secretary of the Society, on the cheese dairies of our State, it was shown "that the yield of the whole State might be increased to 400 pounds per cow, without extra feed," and the experience of the past five years but strengthens the opinion then expressed; and the success of Mr. Ford, and many other dairymen who could be named, gives increased assurance that this will yet be attained in our State. Were this the only department of Agriculture which had been advanced by our efforts, we feel assured that we might appeal with confidence to the Legislature and to the people of our State, that the efforts of the Society have produced results of far more importance to the welfare and prosperity of our citizens, than any other organization which has been in operation in this country, taking into consideration the little expense, comparatively, with which its operations have been carried on.

In connexion with the other operations of the Society, the county surveys have been continued and Winslow C. Watson, Esq., of the county of Essex, has completed the survey of that county. When this report shall be published, it will be found that a mine of wealth, not only of a mineral character, which the survey brings to light for the first time in all its fulness, of the richest character, which any portion of our country or the world can furnish, but also of an agricultural character, that will be most gratifying, and which will show the importance of opening, by cheap and ready conveyance, this portion of our State, which has been shut out in a considerable degree, from a ready

access to market. The Survey fully developes that extensive beds of phosphate of lime, to which allusion was made in our last report, exist in the county, the extent of which is commensurate with the demand of the world, and of which upwards of 100 tons of superior quality have been taken to the sea board. Its importance will be more fully appreciated, upon an examination of an able prize essay published in our last volume, on "the agricultural value of phosphate of lime." In addition to this, there are other minerals which have been found to exist in large deposits, that will add greatly to the wealth of our State, as they shall be fully developed and brought into use.

Each additional survey but strengthens the conviction, that this is a most important work for the State, and that the Society can in no other manner dispose of a portion of their funds more advantageously, than by prosecuting these surveys. The county of Sullivan has been selected for the next survey. This county long secluded by its position from markets, and but sparsely settled, possesses characteristics which when developed, it is believed, will add largely to the resources of our State. From an examination partially made in that county, the Society anticipate that the survey will be one of great interest, and of great value to the inhabitants of the county not only, but to the State at large. In connexion with these surveys, the deficiencies of all the maps hitherto published in our State have been shown, and the necessity of new surveys, for the purpose of giving a correct map for every county in the State, has been clearly presented in the surveys of Washington, Seneca, and Essex. It is gratifying to be assured, that the efforts of the Society have led to an examination of this matter, which it is hoped will secure a correct and perfect map from actual survey, for every county in the State.

Agricultural Education.

The subject of schools, for the education of the sons and daughters of farmers, has long been before the Society, as one of the prominent objects desirable to be accomplished. It has been referred to in previous reports, has engagedthe attention of successive Legislatures, but as yet nothing decisive has been done for its accomplishment. While it is not desirable to press this mat-

ter further than is consistent, it cannot be passed by without expressing the most anxious desire that it should not be overlooked. The anxiety for the establishment of an institution devoted to the wants and imperious necessities of the farmers and mechanics of our State, is deeply felt in every portion of our State, and the number who feel the want of such an institution, is constantly increasing. If intelligence be the birthright of any citizen of our country—if in proportion as our citizens are intelligent, will be their value as members of our confederacy, no argument can be necessary to show, that the great interest which we represent, comprising four-fifths of our entire population, should not be neglected. While we are ready to contribute to the education of every other class, in such a manner as will enable them rightly to discharge the duties of their particular pursuits, we but ask in return, that this great interest of our State and nation shall not be passed by, but shall be by education placed in a position equal to any other, so that when called upon, either in the councils of the nation or elsewhere, they may be enabled to properly exhibit to the world, what the true position and character of an American farmer is—what it is designed to be, from the very nature of our free institutions, as distinguished from those of any other country under the whole Heavens. We therefore most respectfully ask the attention and favorable consideration of the constituted authorities of our State, to the numerous petitions which are calling for their action in this direction.

Trial of Implements.

The necessity of a thorough trial of those implements which are indispensable to the farmer, and the merits of which cannot be determined without actual trial, has long been desired, and the executive committee selected a committee composed of some of the most distinguished gentlemen in our State, conversant with the merits of the different implements selected for trial, and assigned the trial at Geneva, in the month of July last. The implements presented for trial were reapers, mowers, horse powers, drills, cultivators, thrashing machines, separators, broad cast sowers, and steam engines. The trial of these various machines occupied about eight days, and was of such a thorough character,

as to satisfy, it is believed, every competitor at the time of trial. No effort was spared on the part of the judges, to arrive at reliable and practical results in every case, and it cannot be doubted, that a trial so thorough and minute in every important particular, has never been had in this or any other country.

The great and increasing variety of machines in our country, evidences the urgent necessity that existed for a complete and satisfactory trial; and while it is not assumed that in every case, the judgment passed upon the machines, may not in some respects have failed to do complete justice to some one machine, still it is believed, that the machines to which the awards were made, will fully sustain the judgment of the committee, and will in the hands of the farmer in the field, justify the awards which were made.

The interest which this trial excited in the farming community, was such as to bring together from all parts of our State, and from adjoining States, a large number of farmers, who watched with deep interest the trial of the machines, particularly the reaping and mowing machines. The executive committee, in undertaking this trial, were convinced, that while the trial itself would prove of great benefit to the farmers of our State, by furnishing to them machines upon which they could rely; it would also, in another point of view, prove of the highest importance to the mechanical ingenuity of our citizens, interested in the machines in use, by stimulating them to improvements in their machines, or in the preparation of new ones, developing more perfectly the principles best adapted to the particular purpose for which the machine was designed. This has already proved true in reference to some of the machines exhibited—and new ones are being built, as is alleged, with improvements suggested by the trial which took place, by which the merits of the best machines are secured, while it is claimed that the defects of each are avoided. Whether this is so or not, the committee cannot judge, or the public either, without a thorough trial, still it shows, as the result of this trial, that the inventive genius of our mechanics, has been put in requisition, and it cannot be questioned, that eventually great good will result to the farming

interest, in the preparation of additional machines for the various purposes of farm use. The expenses of this trial were necessarily large, but it is believed, the benefits derived from it are of such marked and it is hoped enduring character, as fully to justify the trial made. It can hardly be necessary to repeat the trial of these machines, until some new and improved ones shall have been put in actual operation, and have satisfactorily demonstrated their value by the judgment of the practical farmer.

The report of the committee, which is annexed, is ample and full in its description of the trial, and will, it is believed, like the report on the trial of plows in 1850, by the Society, be regarded as a standard for those who are interested in the use of the implements which have been passed upon.

The executive committee desire to express in this report, in behalf of the farmers of New-York, the obligations they are under to the gentlemen, who at much personal inconvenience and sacrifice, gave their undivided energies to this work, and they doubt not, that the consciousness that they have done a most important, as well as desired work, for the farmers of our State and country, will be to them a source of gratification for all future time. To the citizens of Geneva, who interested themselves in the arrangements for this trial in a most satisfactory manner, the Society are greatly indebted.

Grasses.

The executive committee have long felt that too little attention was paid to the cultivation of grasses in this State. While the demand for pasturage is constantly increasing, the number of our cultivated grasses is but few, and no means have been taken heretefore, as in Great Britain, to add to their number those best adapted for pasturage, for the dairy, or for fattening animals. As it is obvious to every attentive observer, that in this direction, the energies of our farmers are to be more particularly directed than formerly, the executive committee have directed their attention to the subject, and have adopted a selection of grasses, which they deem best calculated to aid in the improvement of our herbage, and have called the attention of our farmers to the

trial of the same. Should the funds of the Society justify it, it is designed to import the seed of the various grasses selected, and to give them a thorough trial in every part of the State, provided suitable persons can be secured to give them a fair trial under favorable circumstances. It is expected, that gentlemen may be willing to make the trial in some instances, on an extended scale, and defray in part at least the expense of the seeds, which will materially lessen the amount to be expended by the Society. When it is considered that the natural pastures of Great Britain contain from 26 to 30 species or varieties of grass, coming to maturity at different periods, so as to give a fresh bite to the animal every week of the season, and when it is known that prepared grasses may be had producing a like return, it cannot we think be questioned, that this effort, if it shall prove successful, will add largely to the productiveness of our farms, and prove in the highest degree advantageous to the best interests of our State and country.

Models of Fruit.

In pursuance of a resolution adopted by the Society at its last annual meeting, Mr. Townend Glover, of Fishkill, was employed, to prepare models of fruit, which had been adjudged by the Society as worthy of culture, to the number of 78 varieties of apples, 27 of pears, 17 of plums, 14 of peaches, 9 of cherries, 2 of grapes, 4 of strawberries, 3 of apricots, 2 of nectarines, 4 of currants, 4 of raspberries, and 14 of gooseberries, and a case of insects. Mr. Glover has prepared with great skill, and true to nature, 44 varieties of apples, 31 of pears, and 29 of plums, with the insects ordered; and they are now arranged in the museum of the Society. The importance of this collection cannot be too highly appreciated, and it is believed, that an extension of the collection is very desirable, whenever the funds of the Society will allow it to be done. The balance of the models ordered, will be completed as soon as suitable specimens can be procured for the artist.

The resolution in relation to M. Kossuth was duly attended to,

on behalf of the Society, by the Secretary, in the unavoidable absence of the President.

The interchange of the Transactions with foreign associations, has been very extensive the past year, and is constantly increasing. During the year large assortments of different varieties of grain and seeds, have been received from England Scotland, France, Bavaria, and Russia; and returns have been made as full as the means of the Society would permit.

A most interesting feature in our intercouse abroad is, that which has been opened with the Royal Hawaiian Society of Honolulu, Sandwich Islands. This Society has been organized three years, and has published three numbers of their transactions, which are in the highest decree creditable to those Isles, and show most clearly, what has been done, in transforming to a great extent, the entire groups from barbarism, to their present condition of civilization, within the memory of many of those who compose this Society.

In 1850, the Secretary having noticed the formation of a Society there, solicited permission through the American Missionary Board, to forward on behalf of the Society, their Transactions to Honolulu; the request was most kindly complied with, and in due time returns were received, expressing the most heartfelt thanks for this donation. During the succeeding year, a letter was received from the Hon. Wm. L. Lee, the Chief Justice of the Courts of Hawaii, and Pres't of the Society, calling to mind his former residence, when a young man in the village where the Secretary resided, and giving a brief account of the manner in which he became a resident of those Islands, 20,000 miles from our Atlantic coast. He was remembered not only, but it was most gratifying to be assured, that he was engaged in a most noble work among this people, and that his influence was felt in the advancement of all those industrial pursuits, that give character and stability to civilized Society. A letter has been received from him lately; and a box of grain, seeds, and useful works on agriculture and horticulture, have been forwarded to the Society, and the arrival of a collection of seeds from the Islands, which is on the way here, is daily expected.

It is a matter of no little interest, to be assured that we have been instrumental in aiding in carrying forward and sustaining this Association, and its importance can only be measured by the value of civilization and improvement, as compared with heathenism. A way is opened through this channel, for supplying these Islands with implements, grain, and seeds, and stock, from our country, and it cannot be questioned, that the commercial relations between our country and these Islands, will increase rapidly, and become of a most important character.

County Associations.

The returns from the county Societies, evince a most gratifying advance in every portion of the State. Three new Societies have been organized, and the interest which is manifested in sustaining them, shows that there never has been a period, when they were effecting so much for the advancement of agriculture as at present. The Secretary visited several Societies, and delivered addresses; and in all of these Associations, he was most glad to find that the best farmers in our State, are giving their energies to advance this great interest, by the adoption of all those improvements, which have stood the test of practical experiment, and which in their results are adding largely to the productive industry of our State.

Agricultural Museum and Depository.

The continual increase of our Museum, by donations from abroad, as well as from every portion of our country, has so filled the rooms allotted us, that it is impracticable to make any suitable arrangement of them. Every year's experience satisfies us of the importance of this collection, not only to our farmers and mechanics, but to the State and country at large; and it is believed, that the best interests of our State demand an extension of accommodation. We are assured that the proper authorities of the State are desirous that this should be done, for the accommodation of the Cabinet of Natural History, and the Society, and a bill has been introduced into the Legislature, by a gentleman long connected with the Society, and the interests of agriculture, for the purpose of securing such accommodations as are needed;

which it is hoped will meet with the favorable consideration of the Legislature.

Prof. John Pitkin Norton.

We cannot in justice to ourselves, forbear to notice the decease of this distinguished friend of agricultural science—and at the time of his death, an honorary member of this Society; one who was most deeply interested in its progress, and whose last public address was delivered at our annual meeting in 1852. In the midst of his usefulness, and in the very vigor of early manhood, he was arrested and cut down, and taken from us. The executive committee, on learning of his death, adopted appropriate resolutions, and communicated them to the friends of the deceased. Prof. Norton, at the time of his death was only thirty years of age, yet in that brief period he had accomplished more for the cause of science and agriculture, than most men who live to an advanced age.

Andrew J. Downing,

Also intimately connected with the great objects of our Association was, in the midst of his usefulness, in a sudden and painful manner taken from us during the past year.

Winter Exhibition.

The exhibition of fat stock and seeds, surpassed the anticipations which had been had in relation to it, and the promise for the present year is most encouraging. The time of the annual meeting having been changed, to make this exhibition more convenient for exhibitors, it will doubtless become one of the great exhibitions of our country, and will lead to that perfection in breeding and feeding of stock, which is so desirable, and which the Society have labored to accomplish.

At the last annual meeting, it was the general expression of those in attendance, that the premium list of the Society should be increased, and that the receipts of the Society should be expended in this direction. A large number of letters were received from various parts of the State, urging this upon the Board, and also recommending that a portion of the expenses larger than had

usually been provided for by the Society, attending the annual fair, should be assumed, so as to relieve the citizens of the place where the fair might be located. While the ex. committee were not fully satisfied as to this last request, they felt it their duty still to carry out as fully as in their power, the wish of the Society, as thus expressed. The premium list was carefully reviewed, such additions made, as experience had shown were desirable, and a large increase of premiums added, amounting upon the whole list to nearly $3,000. The amount of premiums offered at the fair at Utica, was about $7,500, and for the winter exhibition, including county Survey, and essays and experiments, about $1,800, making upwards of $9,000, and in addition, the Society assumed the expenses of clerks, superintendents, and certain other incidental expenses connected with the fair, which had before been provided for by the locality; this expense amounted to $2,017.91.

From various circumstances, the receipts at the fair, though equal to what had been received at Syracuse, in 1848, were considerably less than at Albany and Rochester. This was mainly owing to the alarming sickness prevailing in the Western part of the State, which prevented attendance from that direction. The time of the fair also had an influence, as it was at so early a day, as to interfere materially with the farmers, they being very generally, in the grain growing districts, engaged in preparing their lands for seed, or in putting in their crops.

The time of the fair was selected, in consequence of the days which had been appointed by the Western States and Canada, which occupied each week in September, except the one selected. While the executive committee and the Society are desirous so to arrange their exhibitions, as not to conflict with others; they deem it a duty which should not be neglected, that the first consideration to be inquired into should be, what time is best for the convenience of our own citizens; who are the persons most interested, and who contribute to our exhibitions, and give them that high character which they have hitherto sustained. They would therefore most respectfully suggest for the consideration of their successors, that a later day is indispensably necessary, in

order to secure a full attendance, and a complete exhibition from our own State; and that the best interests of the Society, can alone be promoted by the selection of a later period for the exhibition.

Among the items of the past year, which added largely to the expenses, was the trial of implements, premiums, and expenses, $1,295.08, which will not be required for the present year, and it is presumed not to the same extent at least, for some time to come. The premium list of last year, gave very general satisfaction, and it is not suggested to make any material alterations in it, except to retrench in particular departments, which may be considered too high as compared with others.

To ensure complete success in our exhibitions, the farmers and mechanics of our State must enlist their entire energies, and it cannot be doubted, that such efforts will be put forth the present year, as shall be creditable to the State, and which will exhibit the onward progress which is making in every department of industrial effort.

The Annual Fair at Utica.

The *twelfth* annual fair of the Society, was held at the city of Utica, on the 7th, 8th, 9th, and 10th September, and exhibited throughout its entire continuance, the great interest which our citizens feel in this truly great occasion, for the display of the improvements, the ingenuity, the industry, and scientific attainment of every class of our citizens. The attendance was large, showing that there was no diminution of interest from former years, and had it not been for the causes before alluded to, there can be little doubt that it would have been as fully attended as on any previous occasion.

The Chief Magistrate of the State, as he had on a former occasion, and as his predecessors had done, honored the fair by his attendance. The list of distinguished guests, embraced our State officers, many of the members of both Houses of the Legislature, and delegations more numerous than on any former occasion, from the Canadas, many of the States of our Union, and

from almost every local association in our State ; and in addition to these, a large attendance of those of our citizens, who have given their best energies to develope the resources of our State, and the improvement of its agriculture, in every department. There is no feature of our exhibition more gratifying than this ; it indicates that both at home and abroad, the pursuit of agriculture has truly vindicated its right to be considered as of the highest interest to the welfare of the whole people. It strengthens the relations between the State and the Society, from which an aid so valued and so honorable is derived, and is an evidence, that all that has been done, has been observed and approved by the intelligent scrutiny of those to whom the people have entrusted the places of the highest trust.

The annual record of our fair would be imperfect, if it failed to award full justice to the admirable arrangements which were devised and sustained in respect to the police, and watchfulness and supervision of the ground. It was most creditable to the citizens of Utica, that the good order which characterized the occasion, was alike the result of a general disposition to obey, and of the excellent regulations which, under the directions of John Butterfield, Esq., and those associated with him, were instituted ; and the prompt manner in which all the expenses of the fair were satisfactorily arranged by the gentlemen having charge of the arrangements at Utica, Messrs. Faxton and Butterfield, deserves the highest commendation.

The fair grounds were a decided improvement upon those of previous years, and the substitution of tents for wooden structures which were adopted generally for the first time, was a most fortunate selection ; adding much to the beauty of the exhibition not only, but also materially diminishing the expenses attending the preparations for the exhibition. These capacious tents afforded ample space for the arrangement of the articles, and for the accommodation of the public, and gave a charm to the whole exhibition, which it could not otherwise have presented.

The gentlemen selected as judges, attended more fully than on any former occasion ; their duties were most arduous, and were

discharged with a fidelity, that demands the approbation of the society and the competitors. The duties required of judges, call often for much sacrifice of time and personal convenience, and they are every year, from the higher grade and closer divisions of excellence, more delicate and embarrassing, and at no exhibition of the society have those duties been as perplexing from the causes named, as at this. It is highly creditable to the farmers of our State, and gentlemen from other sections of our country and the British Provinces, that they assume these duties, and the manner in which they have been discharged, shows how well they are qualified for these important trusts.

From the increased responsibility devolving upon the judges at our fairs, it is of the highest importance that they should have one entire day to themselves, previous to the admission of visitors. This was partially accomplished at the late exhibition, and the result was most satisfactory.

In the various departments of the exhibition, it is believed that the character and perfection of the stock and articles on exhibition, had never been equalled at any previous show. The improvements which have been made, induced an expectation that this would be the case, and it is most encouraging to the society, to be assured that, in the opinion of those competent to decide, such was the result of the exhibition, taken as a whole. There is scarcely a department of human industry, whether in the field, or the workshop, but that the achievement of sound judgment, inventive genius, taste, or persevering labor, may be seen to have made creditable advance, each year improving, each exhibition distinguished by articles superior to the last. Especially is this true in regard to the greater care bestowed upon the details of the articles sent, in their firm and established character, taking the place of the frail and unworthy.

All the halls were thronged with visitors, and it was with no small pleasure that the Society witnessed the attention bestowed upon the exhibition of the choice varieties of English, Scotch and Continental grain, sent by the enlightened liberality of Charlwood and Cummins, Tavistock Row, Covent Garden, and Robert Hastie, Mark Lane, London, and his Highness Baron de-

Nottbeck, Imperial Russian Commissioner, London. These contributions from our friends across the Atlantic, secured by the attendance of our Secretary at the Great Exhibition of Industry in London, were attentively observed, and in the great worth and excellence of many of the specimens, our farmers saw how much may be gained by the union of practice with science. The society cannot but hope, that some fine varieties of wheat, which they in return have sent abroad may be received with interest not only, but in the cultivation to which they have been subjected prove of value to the old world.

Floral Hall ever attractive to the ladies as well as amateurs of the fine arts, was visited by immense numbers during the entire fair, and was alike creditable to the exhibitors, and to Dr. Alex'r Thompson who superintended its arrangement, a service which he has most kindly performed for the society often, and always to the entire satisfaction of those who are most especially interested in this portion of the exhibition. The Press gave a faithful narrative of the proceedings of each day's exhibition, and the society extended to this portion of their visitors as they have ever done, their most cordial welcome; since it is in the observations and delineations of a free and enlightened press, that the nation and the world discover what the society has done, and what the triumph of their efforts has been.

ADDRESS.

On the last day of the exhibition the society was called to order by the President, Henry Wager Esq., under the spacious tent of the society; and after an appropriate address to the throne of Grace by the Rev. Mr. Corey of the Baptist Church, Utica, the Hon. Horatio Seymour was introduced by the President to the numerous audience of ladies and gentlemen assembled. This address will be found accompanying this report. It was heard with most gratifying attention, and was worthy of the well earned fame of Mr. Seymour, as an accomplished orator, and as an enlightened and liberal minded gentleman. It will be read as one of the most interesting of the contents of the volume which is herewith presented. At its close, his Excellency Gov. Hunt was introduced by Mr. Seymour to the audience, and he respon-

ded in a few most appropriate and well timed remarks, much to the gratification of his auditors. On motion of Wm. Kelly Esq., of Rhinebeck, a copy of Mr. Seymour's address was solicited for publication. The Secretary then announced the premiums awarded, and the society adjourned.

The impression made on the society by this, their twelfth annual Fair, has been most gratifying in its reward and promise. The years which had elapsed since the Fair had been held at Utica, had witnessed wonderful fulfilments of the expectations, then but faintly cherished. The path of success pointed out to the farmer had been pursued, the task required of the inventor has been fulfilled, or is in its process of success. The skill of the mechanic has led him to noble enterprise, as the splendid machinery and new and useful implements exhibited, most triumphantly show. The bearing of the tried, able minds who dared to proclaim to the agriculturist the intimate connexion between science and labor, has diffused itself throughout our State, so that they who were once deemed theorists merely, are now recognized as benefactors.

To the future, the society devotes itself with greater encouragement, from having witnessed at Utica, that the friendly cooperation of the authorities of this great and noble State, and of the people also—all parties—all opinions—all classes are with them. The highest service it can render to the people it will cheerfully give to the great work of aiding agriculture, to elevate it as a profession, to educate its members, so as to enable them to fulfil the high destiny of this, the first of human employments.

Another year is now opening upon the Society, and its concerns are to be placed in other hands; we rejoice that there are good men and true ready to assume the high responsibilities which devolve upon the officers of this society. Into their hands we commit the trust reposed in us at the commencement of our term of service. We have endeavoured faithfully to discharge that trust, and if we have failed to do so, it is not from an ardent desire to fulfil all that was expected of us.

In concluding our report, we regret to announce that our respected and highly esteemed President is absent from our Board. From a severe illness contracted while in the service of the society as a delegate to the State of Maryland, he has been compelled by the advice of his physician to seek a milder climate for the winter. Our ardent desire for him, is, that he may be restored in health and recovered vigor, again to unite with us in advancing the great work in which we are engaged, to which he has ever been ready to devote all his energies.

B. P. JOHNSON,
Corresponding Secretary.

ADDRESS

OF THE HON. HORATIO SEYMOUR, DELIVERED BEFORE THE NEW-YORK STATE AGRICULTURAL SOCIETY, AT UTICA, SEPTEMBER 10, 1852.

Seventy years since, George Washington passed this place on his way to Fort Stanwix (now the village of Rome) to visit that remote outpost of civilization. His route carried him over the conspicuous point a few miles east of this spot where the high table lands break down into the valley of the Mohawk. When he stood upon this elevation the hills and valleys, and plains of this region were stretched out before him, covered with an unbroken forest.

It is not mere fancy when I say that the spot on which we are assembled, attracted his particular attention. We are met where the highlands which divide the valleys of the Sauquoit and Mohawk fall off and allow these streams to form their confluence a short distance to the west. Struck with the beauty, fertility and the great natural advantages of this region, which at that early day he foresaw would be the channel of commerce between the Atlantic coast and the valley of the Mississippi, with its ten thousand miles of navigable streams, bordered by boundless fertile plains, he purchased lands in this immediate vicinity, and many of the farms within our view are held by titles derived from General Washington.

It was at the close of the revolutionary war, when his efforts to establish the freedom of our country had been crowned with triumph, when he was exulting over his country's victories, and agitated with an anxious hope for its future prosperity, that he contemplated with particular attention, the region in which we are assembled. It was in the autumn; when the unbroken forest

around him was gorgeous with its varied hues. The country was still in possession of the savage Indians, save an occasional spot where the adventurous pioneer had fixed his cabin. In the valley beneath his feet was the ravine where the battle of Oriskany was fought, in many respects the most fierce and sanguinary struggle of the revolutionary war, and he saw as he passed along, the ground strewed with the broken and shattered implements of war and the unburied remains of the brave German settler and of his savage foe, in many instances fixed in each others dying grasp.

Three score years and ten, the brief period allotted to the life of man, have rolled away, and what have been their result to the feeble settlements of whites and to the remarkable confederacy of Indian tribes who, before the advent of the Europeans without superiority of weapons, or knowledge of the sciences, solely by bravery and courage, held in awe and subjection, a greater extent of country than was ever before conquered by an equal number of warriors in any period of the world's history.

In the cemetery which adjoins this field you will see a boulder of white sienite which you would ordinarily pass by without notice, but which the simple faith and traditions of the savage taught him to regard with superstitious reverence, and which he believed to be the palladium of the fortunes of his tribe. From it was derived the name of the Oneida tribe, (which signifies "the children of the white stone,") one of the powerful clans of the "Six Nations," who possessed this region and gave their name to this county. This rude stone that was supposed to have some mysterious connection with the origin of their tribe, that during the period of their prosperity was used on occasions of solemn assemblages as a sacrificial altar, now stands in yonder burial place, the sole monument of their departed greatness and of the extinction of their race, and is all that is left to remind you of these brave and powerful people.

How has it fared with the white man who then deemed it an adventurous thing to make his home in these valleys? Place yourself on yonder eminence where George Washington stood seventy years since and pondered over the future destiny of this region and mark the change. The forest has been swept away,

or its lingering vestiges are preserved to advance the arts of civilization, or to adorn the abodes of educated men. Here is to be seen a flourishing city and on every side are to be witnessed beautiful villages, the spires of churches and the institutions of learning. The products of civilized skill, no longer regarded as curiosities, are produced by hundreds of manufacturing establishments situated along the margins of our streams, producing fabrics then unknown, by machinery which man's ingenuity had not yet devised. Trade no longer struggles against the current of yonder river in small canoes, but a commerce is carried through this valley on our canals, that in extent, value and tonage is nearly if not quite equal to the whole foreign commerce of the United States. Intelligence is no longer communicated by uncertain rumor; it flashes like lightning along the telegraphic line and the traveller instead of following Indian trails through dark and dense forests, is borne along on roads of iron, by engines impelled by fire and steam. And on this day, on a spot which seventy years since was mainly possessed by savages, whose only pursuits were war and the chase, we are met for the purpose of advancing agriculture, man's most peaceful pursuit, and we see here assembled a greater number of able bodied men than the United States could bring into the field at any period during the revolutionary struggle.

The occasion makes it proper for me, in speaking of the progress of our country, to confine my remarks to considerations connected with agriculture; and if I mistake not, the present is a period of great interest in the history of that pursuit. It is an era which will work changes of a radical nature in the principles of conducting husbandry, affecting not only the extent and character of the productions of the earth, but also involving changes in the domestic habits and degree of intelligence necessary to those engaged in the cultivation of the soil. If the views I shall submit to you are correct, they are certainly of great importance as affecting the condition of the most numerous and important class of our citizens. Periods of domestic and industrial changes are not of course, distinctly defined. They are in their nature gradual and in a State so extensive and so varied in condition as ours, their progress will be unequal in different sections. I shall assume however

that the time that has passed since the settlement of our country has been employed to subdue it to the use of civilized man; that the duty of the future will be to refine, perfect and bring it up to its full measure of productiveness and improvement, to adapt our system of agriculture not only to the enlarged markets and increased facilities of our country, but to its relationship with the commerce of the world. For the purpose of distinguishing these two periods more clearly, I shall designate the past "the era of the axe." I select this implement as the type of the past because it has been chiefly instrumental in hewing down our forests and preparing our lands for cultivation. I shall term the period upon which we have entered as the "era of commercial farming." because at this time, the advanced condition of our country, its increased population, its enlarged markets, its facilities for transportation by canal and railroad, and its growing connexion with the commerce of our own country and the world at large, are now impressing, and will continue still more strongly to force upon our farmers, the necessity of adopting the leading principles of commercial economy and management in the conduct of their pursuits.

In early periods of the settlement of our State, the emigrant who left the Eastern States and plunged into these "Western Wilds," carried with him little besides the indispensable implements of labor. The qualities required, were courage, perseverance, physical strength, and the power to endure hardships and privations.

In the first instance a rude cabin was to be constructed, and a little ground cleared to produce the food essential to the preservation of life. When the forests were subdued by stern and severe labor, the condition of the country for a long time afforded no markets; and those who can not sell can not buy.

The great effort then was for every farmer to produce everything he required, within the circle of his own family; and he was esteemed the best farmer, to use a phrase of the day, "who did everything within himself." And it was then deemed as creditable for ladies to spin and weave as it was in the days of King Solomon, who, describing an honorable woman says: "She

layeth her hands to the spindle and her hands hold the distaff." "She looketh well to the ways of her household, and eateth not the bread of idleness." Or in the days when Homer made the use of the distaff and loom the employment of royal women.

> "Alcandra consort of his high command
> A golden distaff gave to Helen's hand;
> And that rich vase with living sculpture wrought,
> Which heaped with wool, the beauteous Philo brought.
> The silken fleece, impurpled for the loom,
> Recalled the hyacinth in vernal bloom."

As the farmer was limited in his means for buying or selling, he was compelled to cultivate a great variety of crops, and to produce, as far as practicable, every article of food, clothing, furniture or farming implement upon his own premises, and his establishment became an epitome of the agriculture and manufactures of the country.

Restricted markets and the consequent want of money, led to a system of exchange of productions among the farmers themselves, or with the neighboring merchant. This system of "barter" was a distinguishing feature of the day, and is in marked contrast with the leading principle of what I have termed "commercial farming." It not only affected the business affairs, but the social condition of the people. Within a recent period, the land owners of this county and of Western New-York received cattle in payment for their lands; and the merchant gave his goods for the produce of the country; taking all that was brought to him. Putting the different rolls of butter received by him from the thrifty housewife into one cask until the whole presented hues as various as the calicoes which he gave in exchange.

Labor among farmers was exchanged on the same principle. When the axe had felled the forest, the single man could not move the huge trunks of the gigantic trees, and a "logging bee" called together the neighbors to aid him in the emergency, with the tacit understanding that the favor was to be returned upon a like occasion.

The house and barn were raised in the same manner, and so trong was the feeling of mutual dependence, that many who

would not pay a note of hand, would shrink from refusing to go to a bee or a raising. This principle found its way into all the relations and duties of life. The parson was, and is now, to some extent, paid by donation parties; the school master "boarded round;" and even the social amusements which cheered and relieved toil, took the form of a "paring bee" or a quilting party. Marriage was not only an union of honest hearts and strong hands but also of the spinning wheel and the axe; the plough and the loom; and when death entered their doors, his victim was carried to his last resting place, not in a hired hearse, but upon the shoulders of neighbors and friends. I am aware that the friendly and useful customs to which I allude, are still in existence in many sections, but they will be found to have had their origin not only in the limited productions of a country while it is being reduced to cultivation, but also in the absence of a full monied demand for those things they were able to produce.

The "era of the axe" has passed away. It is true we have many hardy settlers toiling to subdue the new lands of the West, but the great extension of our system of railroads and canals or the natural facilities for commerce afforded by our lakes and rivers, place them all within the reach of market, while the demand for provisions enables them to sell the fruits of their toil for money.

The past period is to be remembered with respect and gratitude. Modern wealth, improvement and science may be disposed to criticise its rude and imperfect processes; but we should bear in mind that it hewed down the forest and wrung a hard but honest livelihood amidst its stumps and blackened remains. Its scattered population built roads through swamps and forests, rough and uncomfortable indeed, but preparing the way for the improvements of the present. It was the heroic period of farming in this country; for the early settlers of our State bear the same relation to the present condition of our land, that the warriors of the middle ages bear to modern civilization, They laid the foundation of our present social condition, and their sturdy and brave warfare with the difficulties of their situation was as honorable as the strife of arms, and the blows they struck upon the receding forests

were as manfully given as ever fell on "hauberk, casque or shield." The system they pursued was wisely adapted to the then condition of the country, and if we do our duty as well, and are as sagacious in improving our advantages as they were, we shall soon see great improvement not only in agriculture, but in all the arts of life.

I have given this sketch of the past, not only because it is of historical interest, but also because it brings out more strongly, by contrast, what I conceive to be the important principles of agricultural economy at the present time, and which will continue to grow more essential in the future.

The extension of facilities for conveying the productions of our soil to the markets of our own country and those of the commercial world, has not only enlarged the area of agricultural pursuits, by giving to our farmers an unlimited cash market, but has also made essential to success certain principles which would have been injurious during the period I have described.

It involves many considerations of great interest and value, deeply affecting the social and economical conduct of agricultural labor. At an early period, "production for self consumption," was the leading purpose; now no farmer would find it profitable "to do every thing within himself." He now sells for money, and it is his interest to buy for money, every article that he cannot produce cheaper than he can buy. He can not afford to make at home his clothing, his furniture, or his farming utensils: he buys many articles for consumption for his table. He produces that which he can raise and sell to the best advantage, and he is in a situation to buy all that he can purchase, cheaper than he can produce. Time and labor have become cash articles, and he neither lends nor barters them. His farm does not now merely afford him a subsistence; it produces capital, and therefore demands the expenditure of capital for its improvement.

An extended cash market also enables him to simplify his processes. He can now take advantage of the principle which lies at the foundation of success in commercial and manufacturing pursuits, of "doing one thing; doing it extensively and well." It is true that the necessity for rotation of crops and improve-

ment of his soil sometimes prevents him from carrying this principle out to its full extent, but as he approximates to it, he increases his profits, as it enables him to methodize his business and to acquire a thorough knowledge of everything relating to the article he produces. He who has a large amount of any one thing to sell, can dispose of it with less loss of time to himself and the buyers, with a more perfect understanding of the markets than the man who has an equal amount in value but made up of a diversity of articles. This principle is well illustrated in that section of the State where the inhabitants are exclusively engaged in making butter or cheese; pursuits which admit of the application of the principle, as they do not exhaust the soil. The products of these dairies are sold at their homes, the whole disposition of the fruits of their toil is a single monied transaction, leaving them at liberty to buy their supplies including the flour they consume, with cash under the most favorable circumstances. Confining their attention to one subject from year to year, they become skilled in their peculiar pursuit and methodize and cheapen their processes. Informed with regard to the markets, they learn to follow their productions into the open markets of the world; trace them perhaps to the shores of Europe, and are thus led to inform themselves more thoroughly in relation to the principles of commerce, the laws of trade, and the tastes and habits of their customers. A simple illustration of the same principle is an apple orchard that gives fifty varieties of fine fruit in comparison with one that gives but one valuable kind. The first is almost valueless for commercial purposes; for the time required for gathering and selling the fruit in detail and at different times, eats up their price in market, while the same number of trees of one standard variety makes an important addition to the farmer's income, because he gathers and sells them by one operation, and because with our extended markets the purchaser seeks him out to save his own time and expenses by buying largely at one place. The important principle of "doing one thing; doing it well and extensively," is one of the principles towards which there is now a strong tendency. Of course, in agriculture, this must be qualified by the necessity which compels rotation of crops, &c.; but the principle can and should be approximated to.

The world has never been so highly commercial as it is at this time; never has intercourse between the nations of the earth been upon so vast a scale, and the farmers of New-York by the instrumentality of railroads, canals and steam ships are brought within its vortex. The tendency of this is not only to disseminate intelligence but it renders varied information indispensible. The affairs of the whole commercial world blend themselves with agriculture and give to this pursuit a scope and relationship that demand and produce varied intelligence. Men enlarge their capacities and improve with their pursuits. The circle of the farmer's dealings is not now limited to his neighbors and the next merchant, it is extending itself into all quarters of the globe.

The office of commerce is to give value to articles by transporting them from the places where they are not wanted to those places where they are needed. It was wittily and wisely said by an English statesman on a recent occasion, "that filth was not a bad thing, it was only a thing in the wrong place," and that which bred pestilence in the city, spread upon the fields of the country, created beauty, prosperity and wealth. This idea admits of an amplification and an application to the subject before us. There is nothing valuable out of, or valueless in its proper place. The ore in the earth is valueless, the rude rock in the commercial mart is valuable. The stones which obstruct the farmer's plough and the dirt which annoys the citizen would be highly valuable if they changed places. The simple law which creates commerce is the importance of putting things in their right places and the whole secret of success in business is to find out what the thing is worth in the right place. The price which the farmer can command, will depend upon how much his products are needed in some quarter of the world, and if he is ignorant of the nature and extent of this demand, and ignorant of commercial principles, he will lack essential requisites for the successful management of his affairs, and the profits he should gain will be reaped by another.

I shall not advert in this address to the importance of scientific attainments, or to the advantages of particular processes, or to great improvements in mechanical appliances, these are subjects that have been considered and pressed upon the attention of our

farmers by those far more competent than I am, and they will ever continue among the practical questions which will engage the attention of those who are anxious to elevate and advance agricultural pursuits. We have every assurance that our country will make great advances in these respects, and a beneficent providence which favors rural life, will compel a knowledge of the soil and its constituents, and of many forms of animal life by making its attainment necessary to prevent exhaustion of fertility and the ravages of insects. I think the advances which are made in these respects are much greater than we suppose. Scientific knowledge, when it comes forth from the laboratory or study, is clothed with a nomenclature so stiff and forbidding that it is somewhat repulsive, but by the aid of popular discourses, agricultural societies, and above all of the press, it is gradually popularized, expressed in more familiar terms and becomes a part of that general intelligence we all possess.

In the great struggle which is going on among the nations of the earth for commercial supremacy, the farmers of this country are to bear an important part. They furnish the freights which send our vessels into every quarter of the globe. Their pursuit is of the highest and first necessity to all other departments of business; if it languishes, they suffer, and if it prospers they are successful.

The increased intercourse among nations, the modification of revenue laws, and improvement of ships, and the introduction of steam upon the ocean, have brought us into close competition with Europe. Interest, pride and patriotism make us view the result with deep solicitude. How are we prepared for the contest?

In estimating ourselves we must not fall into the common error of comparing ourselves with what we were. We are apt to think lightly of the work of the hardy pioneer, without reflecting upon the difficulties he encountered, and we grow self-satisfied as we dwell upon our improved condition. The world will not permit us to be judged by such standards. We have arrived at that condition when we cannot with self-respect ask any allowance in our favor; the stern question to be met is, not what we are or shall be in comparison with the past, but what we ought to be with our present opportunities? what are the advantages we now enjoy,

and how shall we enlarge them, and bring ourselves up to the full measure of our duty to ourselves, our country, and the world? and how will our farmers sustain the competition which commerce creates between them and the agriculturists of the world? We are now relieved from the difficulties with which the early settlers had to contend. Want, privation and suffering are comparatively unknown; our fertile fields have been prepared for use by the hardy and brave men who have gone before us: science and mechanical skill have given us convenient implements to aid us in our labors; our houses and barns are built; our country is filled with institutions of learning and religion; capital can be obtained with comparative ease, to enable us to manage our affairs to the best advantage; we have abundant facilities for sending our productions to market, and a demand for them which enables us to sell them for money upon some terms. It is a remarkable fact that every county in this great State either borders upon some navigable sea, lake or river, or is traversed by a canal or railroad, either completed or in process of construction, all communicating with our great commercial emporium. We have now no "sequestered regions" in the Empire State. These improvements must immediately give us a great addition to our wealth and population.

The houses of many of our farmers contain articles of comfort and luxury unknown to royalty two centuries since, and our citizens who will inform themselves with respect to the domestic comforts of the Henrys and Edwards of England, will congratulate themselves that they are sovereign citizens here, rather than kings and queens, when a piece of carpet was considered so indicative of royalty, that a strip laid at the foot of the throne gave rise to the term "Carpet Knight," to distinguish those who received their knighthood in the palace, and not on the battle field.

There is much also in the physical character of our country, to excite our admiration. Its variety of climate and productions, and the magnificence of its natural arrangements, apparently designed for commerce and intercourse upon a vast scale; its great inland seas and rivers, whose united length would span the world. Our present condition is not only one of great prosperity but the highest anticipations are excited for the future. Cities, towns

and States are created with bewildering rapidity, and the sudden influx of population and business into new regions of fresh fertility, pours wealth into the possession of many who seem to be exonerated from the conditions upon which it is ordinarily attained. But great natural or acquired advantages will not of themselves alone either give or secure to us agricultural or national prosperity.

The skies of Italy are as bright, her air as genial, and her soil as productive as when Rome was mistress of the world; yet now her independent existence is questionable. Her ancient dominion, at this time is rivalled by a people occupying a limited and insular position. "It is the proud boast of Britain," to use the language of one of our orators, "that the sun never sets upon her dominion, and that the beat of her morning drum makes one continuous strain of music round the world." But vast as is the fabric of British power, and immense as is the accumulation of her wealth and resources, let her inhabitants for six short months adopt the habits of the modern Italian, and universal bankruptcy would overwhelm her, her power would crumble and its huge remains encumber the circle of the globe. The power of the British Empire is sustained by the intelligence, toil and labor of her farmers and her artizans. The old world is strewed with the remains of ancient empires, and the antiquarian examines with curious eye, the hills and mouldering bricks to determine the site of Babylon, or muses over the splintered columns that half survive the wreck of Thebes; or wanders through Athens and Rome where traces of beauty and greatness still linger.

All these bear witness that position and natural advantages fail to secure perpetuity of prosperity or power.

The Providence which governs this world, nowhere creates prosperity for an ignorant or an inactive population, nor on the other hand does it withhold from intelligence and industry, their reward, although they may be exerted under the most unfavorable circumstances. It may be asserted as a great general truth that the condition of every community or class depends upon "*the sentiments which pervade it.*" The prosperity of society is the result of its own efforts. Its degree depends upon its intelligence

and activity. Its character upon the public opinion which attaches particular value to particular pursuits. Self interest alone does not furnish the necessary stimulus. History proves that it has failed to perpetuate prosperity, and the condition of the world around bears witness that it does not create it.

It is the result of a diffusion of intelligence furnishing the knowledge necessary to effect purposes, and a decided public sentiment giving direction to energies and selecting the objects which shall be deemed most valuable. The intelligence of any society creates its power. A public sentiment makes its morality and gives the impulses which lead to the exertion of its power. Like the steam in the engine, public sentiment is the great source of action.

I wish to call your attention to the potency of this public sentiment, to its importance to our agricultural pursuits, and to the fact that all may influence it. Let us glance at some of the curious and interesting phases which it gives to different communities possessing equal degrees of intelligence and existing under similar conditions of government and position.

The inhabitants of the New England States justly claim to be among the most intelligent people of the earth. Living among wild and broken hills, with an unpropitious soil and comparatively ungenial climate, by energy, industry and economy, they have become wealthy, refined and influential. New England attaches a high value to mechanical skill and ingenuity, and he who can invent that which will save labor or produce property, is admired and rewarded. His skill is at once appreciated and applauded. The thoughts and efforts of their community, directed by the public sentiment to one end, are producing results of the highest value and interest. Intense activity pervades every branch of her mechanical pursuits, and her productions of varied beauty and usefulness are created by machinery, in many instances so complicated that we are bewildered in studying their processes, and so accurate in the performance of their delicate duties that we are startled by a suspicion that they possess vitality and thought.

To that degree of perfection are these pursuits carried, and so certain have become their results in this portion of our country where they are held in high estimation, that their movements are on a scale that compares with governmental action. A few years since a committee was sent out from this town to examine into the system of manufacturing of the Eastern States. They were shown at one point the fields still enclosed by fences upon the banks of a wild and broken river, where a few manufacturers had determined in a counting room in Boston to build a manufacturing city. Theirs was no excited movement. It was calm, well considered, and almost mechanical. They may not all have seen the selected spot, but its bounds had been measured, its distance from market carefully considered; its river had been guaged, and its whole capacity determined with mathematical precision. They called upon their artizans for plans, specifications and estimates for all that pertained to vast manufacturing establishments with their endless complication and details. The decree was sent forth that the city should be built, and it was as effectual as if it had been the mandate of the Autocrat of the Russias. Indeed I doubt if his majesty could find within his dominions the skill and science necessary to produce the required results within the specified period. A few years have rolled away and those who will look again for the fenced fields and the idle river will find the city of Lawrence, with its population of thousands, its busy haunts of industry, and the subdued torrent toiling in man's service.

In strange contrast with those occupations, the traveller through New England will find the inhabitants of a part of its territory engaged in an occupation entirely different, but carried on to the same successful result by virtue of the same principle, viz: a public sentiment attaching to it a high value, and honoring those who distinguish themselves in its pursuit. If any one present has ever had occasion to visit New Bedford or Nantucket, he has approached the sea coast through a level, sterile, unpromising region, but he has been astonished with the costly residences of the towns, evincing wealth and prosperity. He was bewildered by the conversation of men. They talk familiarly of the north-west coast, the China seas, the passage around the Capes, and the

anchorage at the Sandwich Islands. The probable haunts of the whale, the qualities of the vessels and men are household topics, and the curiosities of the marine world are household ornaments. The recent return from the three years voyage round the world, and the contemplated departure to its remote bounds are calmly discussed. The boldness, skill and success of the whalemen of the east, drew from Burke, prior to our revolution, his splendid eulogium upon American enterprise.

Why is it that this lucrative trade is almost confined to a limited spot? The governments of England and France have endeavored to foster it within their dominions by the most liberal bounties, but they never yet have been able to compete with those hardy sailors. Yet their position has no marked advantages, no superior harbors, no abundance of materials to build, or of stores to furnish vessels. The efforts to establish these pursuits on the Hudson, where the harbors are more secure and the expenses of outfit less, and no skill or care was wanting in the preparation, were attended with but partial success, simply because they lacked the stimulus of public interest. The whaleman of Nantucket, when exposed to the dangers of the sea ten thousand miles from home, combating with its howling storms, or seeking in his frail boat to encounter the monsters of the deep, is nerved by the conviction that his courage, his fortitude and his daring will secure for him the applause of his world at home.

If we were to examine in detail the pursuits of each section of our Union, we should find them modified or controlled by the same influence, or if we pass beyond the pale of civilization, we shall see the painted warrior of the west stimulated by popular applause to deeds of daring in his combats with wild beasts or his still wilder and more savage opponent of some rival tribe.

I might, if the time permitted, multiply the evidences of the truth of the proposition, that the condition of communities depends upon the public sentiments that actuate them. Let it not be supposed that this proposition profanely questions influences higher than those of mortal man. It is in pursuance of the designs of that Providence which has fixed the conditions upon which we enjoy success. There was true religion as well as wisdom in the remark

of the priest, who, when called upon in a period of scarcity to pray from field to field in pursuance of the custom of the country, observing one that bore evidences of neglect, passed it with the remark, that it was useless to pray where the owner would not manure.

General prosperity, or that of classes is the result wrought out by the efforts of the people directed by an intelligent public sentiment. Yet we all influence this sentiment, and the workings of each individual mind constitute a part of its volume. It has frequently been changed by one man's efforts. It is constantly influenced by those who boldly and manfully address themselves to the duty of advocating truth or combating errors. Engaged in designs of usefulness or benevolence, we may all by the exercise of energy and perseverance, wield it as an instrument to effect our ends. Would you render your beautiful hills and valleys still more attractive and productive, clothing them with a richer verdure and ornamenting them with tasteful abodes and sylvan adornments of shrubs and trees, animate your agriculturist by holding his manly and noble pursuit in proper estimation.

Would you become a wealthy community, and do you desire to introduce among you the products of mechanical skill? Arouse the public interest and put forth the efforts, and the living streams of your hills, converted to man's service, will, in the morning leap forth to their labors, and in the evening glide on to their rest. Does a more lofty ambition influence you? Would you diffuse around you the blessings of education? Would you fill the mind of man with constant objects of thought and reflection; would you give a new interest to everything round him, (for when you educate a man you open the eyes of the blind,) by calling his attention to all the wonders and beauties of the vegetable world, and teaching him to investigate and ponder over nature's endless variety and processes; or arouse his faculties to the utmost stretch of their powers by calling upon him to measure the orbits of other worlds; to compute their distances and to conceive their sizes; or startle him by pointing out the traces in your hills and mountains enclosed within the strata of enduring rocks as within the leaves of a mighty record showing the former convulsions of the earth; that it has been molten with raging fires, swept with great floods and has been the

abode of monsters more vast than the most morbid imagination had conceived? Would you store his mind with all these wonders, elevate his conceptions, endow him with wealth not subject to fickle fortune's changes, and give to learning its appropriate honor. Let the value of education and intelligence be properly estimated and we shall not regard them merely as means by which we shall be rendered successful as farmers, mechanics or professional men; but while they will render these pursuits successful, they will lead us to regard them as means, not ends; as paths which we tread in compliance with the divine fiat which makes the journey of life one of labor, but which we also may make a road to self-improvement and public usefulness.

If we reflect upon the prospects of our our own great State, we shall see that the present is an era in the history of its progress; a point of time from which we shall have to contend with intelligent zeal for the preservation of present advantages and for the promotion of its great interests.

Placed at a point where an opening through the lofty range of mountains which divides our country from the Gulf of Mexico to the northern lakes, into two great sections, gives us the key of commerce of a vast and fertile region watered by the Mississippi and its confluents, we are in the possession of the most important avenue of trade to be found upon the face of the globe. The route of the Red Sea and the Valley of the Nile which the eagle eye of Alexander the Great selected as controlling the seat of empire; which the grasping ambition of Napoleon coveted, and which constitutes a feverish subject for European diplomacy, is less important than the passage which the Hudson has worn through the Alleganian ridge. To secure the full benefits of our position we must pursue a wise, judicious and enlightened policy which will bring our system of internal improvements to successful completion, and make our canals the cheapest and most convenient avenues to the markets of the Atlantic coast of the maritime world. By the exercise of a spirit of enterprise, tempered by judicious economy, we can defeat all efforts to divert from our State the important and enriching streams of domestic commerce. The farmers of New-York have to contend with domestic as well as foreign competition. The settlement of our State and the construction of our canals, which give us avenues to market, so much affected the agriculture of the East-

ern States that they were compelled to become manufacturing communities. The tide of emigration which has filled the west with laboring inhabitants, in turn now subjects us to the competition of fresh and fertile soils. Our manufactories but recently established, have to contend with the superior experience and capital of New England. If these views are correct, then the condition of these two great industrial pursuits calls for the exertion of all their energies and skill. The agriculturist must, if possible, increase his productions by increased skill, care and attention; and the manufacturer sustain his interests by every effort of ingenuity and enterprise; but above all they must be stimulated, encouraged and applauded by a public sentiment which shall spring from a just appreciation of their condition and value. If this is done, we shall place our State on that firm footing of prosperity which can only be obtained by the stern and successful struggle with vigorous competition, giving nerve and muscle and compact strength.

If we take a view of a still narrower field of duty and consider the communities to which we are more immediately attached, we shall find a wholesome public sentiment equally powerful and our responsibility to create and influence it, still more direct. If its objects are on a smaller scale they are more varied and not less interesting. To diffuse around us happiness and virtue and prosperity; to desire to see the places of our abode sanctified by the temples of our religion, adorned by institutions of learning, and rendered prosperous by the successful pursuits of life, will ever be the impulse of the enlarged and generous mind.

To render our nation great, it must breathe forth a spirit of patriotism, of virtue and intelligence. To render our State one of the most honored members of our great confederacy, it must honor its industrial pursuits and stimulate our artizans and husbandmen by a just applause of that spirit which works out prosperity by honest toil and manly energy. Do we wish to make the towns of our abodes distinguished for morality, intelligence and beauty, we must be the liberal supporters and earnest advocates of those institutions which should adorn every city and village throughout the land, whose influence shall vivify and improve every department

of local or national affairs. If, actuated by an honorable ambition we seek a useful position in society, we will in all respects endeavor to create on all subjects, a sound public sentiment, and we shall find the effort like the quality of mercy, "twice blessed."

In this address I have given a brief sketch of the early periods of farming in this country and of some of the business and social peculiarities which resulted from its condition and the want of extensive markets for its productions; and I have endeavored to show the changes in the principles of agricultural management which our present facilities for disposing of the fruits of our labor have rendered necessary: that our new relationship to the commerce of the world, has made an enlarged degree of intelligence on the part of our farmers, respecting commercial principles, essential to the successful conduct of their business: that however great our natural or acquired advantages may be, they alone will not sustain us against foreign or domestic competition, but reliance must be placed only upon the intelligence and industry of the cultivators of the soil; and above all, that success in this pursuit, as in all others, depends in a great degree upon the estimation in which this most noble and important occupation is held by themselves and the community at large. It is this last consideration that has induced the officers and members of this Society to devote themselves to its concerns and the toil incident to such exhibitions as those we see around us. They feel that it has been true at all times, in all conditions of society, that those pursuits are successfully prosecuted which are held in high esteem by society at large. It is to manifest this regard that the Executive of our State, its public officers and other distinguished men from all parts of our country have attended on this occasion. It is this consideration that has induced me to appear before you today, conscious of my inability to instruct this audience on the processes of farming, although I am somewhat engaged in its concerns, to make the remarks I have submitted to you. They may be unsound and valueless but they are offered as a tribute to the importance, the dignity and value of the farmer's occupation.

New-York State Agricultural Society.

AWARD OF PREMIUMS.

CATTLE.

SHORT HORNS—*Bulls, three years old.*

1st, S. P. Chapman, Clockville, Madison county, "Halton,"..... $30
2d, Wm. M. Bullock, Bethlehem, "Copson,"..... 20
3d, Wm. H. Brown, Peterboro', Madison county, "Comet,"..... 10

Two years old.

1st, J. M. Sherwood, Auburn, N. Y., "Vane Tempest,"..... 20
2d, William Osborn, Jr., Waterville, Onieda county, "Grand Duke,".... 15
3d, William Rathbun, Springfield, Otsego county,..... 10

One year old.

1st, J. M. Sherwood, Auburn, N. Y., "Gen. Putnam,"..... 15
2d, M. D. Bailey, Wampsville, Madison county, "Grand Duke,"..... 10
3d, No bull offered worthy of a premium.

Bull calf.

1st, J. M. Sherwood, Auburn, N. Y., "La Fayette,"..... 8
2d, William Osborn, Jr., Waterville, Onieda county, "Duke Charles," Trans. & 3

Commended.

Wm. M. Bullock's bull calf, "Comet,"..... Trans.

SHORT HORNS—*Cows three years old.*

1st, J. M. Sherwood, Auburn, "Red Rose,"..... 30
2d, S. P. Chapman, Clockville, "Duchess,"..... 20
3d, J. M. Sherwood, Auburn, "Pansy,"..... 10

Two years old.

1st, S. P. Chapman, Clockville, "Ruby 2d,"..... 20
2d, J. M. Sherwood, Auburn, "Nymph 2d,"..... 15
3d, J. M. Sherwood, Auburn, "P. A. 2d,"..... 10

One year old.

1st, S. P. Chapman, Clockville, "Hilpa 4th,"..... 15
2d, N. J. Becar, Smithtown, L. I.,..... 10
3d, (None awarded.)

Heifer calf.

1st, J. M. Sherwood, Auburn,..... $8
2d, S. P. Chapman, Clockville, "Ruby 3d,".....Trans. and 3

Commended.

J. M. Sherwood, Auburn, 3 year old cow, "Amino,".....Vol. Trans.
J. M. Sherwood, Auburn, 3 yr. old heifer, "Pansy 5th,".....Trans.
N. J. Becar, Smithtown, L. I., heifer calf, 2 yr. old,..... .....Trans.
S. Merriman, Oriskany, short horn heifer, 2yr. old,.....Trans.

DEVONS—*Bulls three years old.*

1st, L. H. Colby, Scipio, Cayuga, "Champion,"..... 30
2d, John Oliver, Sterling, Cayuga,..... 20
3d, S. H. Church, Vernon Centre, "Diamond,"..... 10

Two years old.

1st, J. H. Caswell, West Exeter, "Osceola,"..... 20
2d, Marcus Zeah, Fulton, Schoharie county,..... 15
3d, John Muir, Sen'r, Madison county,..... 10

One year old.

1st, W. P. and C. S. Wainwright, Rhinebeck, Dutchess county, "May Boy,"..... 15
2d, J. B. Tuckerman, Richfield, Otsego county, "Young Major,"..... 10
3d, Joseph H. Eastman, Oneida county,..... 5

Bull calf.

1st, W. P. and C. S. Wainwright, Rhinebeck, Dutchess county, "Keokuk," 8
2d, L. H. Colby, Scipio, Cayuga county, "Valiant," .....Trans. and 3

Cows, three years old.

1st, John Freemyre, Fulton, Schoharie county,..... 30
2d, W. P. and C. S. Wainwright, Rhinebeck,..... 20
3d, John R. Chapman, Oneida Lake,..... 10

Two years old.

1st, Wm. C. Remington, Sennett, Cayuga county,..... 20
2d, W. P. and C. S. Wainwright, Rhinebeck,..... 15
3d, L. H. Colby, Scipio, Cayuga county,..... 10

One year old.

1st, R. H. Van Rensselaer, Morris, Otsego county,..... 15
2d, W. P. and C. S. Wainwright, Rhinebeck,..... 10
3d, W. P. and C. S. Wainwright, Rhinebeck,..... 5

Heifer calf.

1st, R. H. Van Rensselaer, Morris, Otsego county,..... 8
2d, J. M. Collins, Smyrna, Chenango county,.....Trans. and 3

Commended.

Miles Vernon, Stafford, 1 cow,.....Trans.
Samuel Baker, Edmeston, heifer, 2 years old,.....Trans.
R. H. Van Rensselaer, Morris, Otsego county, 1 heifer, 1 year old,.....Trans.
John Freemyre, Fulton, 1 calf, ...Trans.

HEREFORDS—*Bulls, three years old.*

1st, (None awarded.)
2d, Gen. Roswell Harmon, Wheatland,..... $20
3d, (None awarded.)

Two years old.

1st, Erastus Corning, Jr., Albany, "Cardinal Wiseman,"..... ... 20
2d, (None awarded.)
3d, (None awarded.)

One year old.

1st, Wm. H. Sotham, Livingston county, "Climax,"..... 15
2d, L. F. Allen, Buffalo, "Talma,"..... 10
3d, (None awarded.)

Bull calf.

1st, Erastus Corning, Jr., Albany, "Smythie,"..... 8
2d, L. F. Allen, Buffalo,.....Trans. and 3

Cows, three years old.

1st, William H. Sotham, Livingston county, "Pretty Maid,"..... 30
2d, E. Corning, Jr., Albany, "Victoria 2d,"..... 20
3d, William H. Sotham, Livingston county, "Rosy,"..... 10

Two years old.

1st, William H. Sotham Livingston county, "Twin,"..... 20
2d, E. Corning, Jr., Albany, "Victoria 3d."..... 15
3d, Willam H. Sotham, Livingston county, "Bloomy,"..... 10

One year old.

1st, Wm. H. Sotham, Livingston county, "Myrtle,"..... 15
2d, (None awarded.)
3d, Wm. H. Sotham, Livingston county, "Dairy Maid,"..... 5

Heifer calves.

1st, E. Corning, Jr., Albany, "Perfection,"..... 8
2d, (None awarded.)

Commended.

George Clark, Otsego county, herd of 50 head of cattle different ages, Silver Medal.

E. Corning, Jr., cow "Victoria,".....Diploma,

W. H. Sotham, cow "Lilly," diploma, having received the first premium heretofore

AYRSHIRE—*Bulls, three years old.*

Extra Stock.—A bull, "Dandy," exhibited by J. C. Tiffany, Coxsackie, Greene county, with no competitor in his class, and having received the first prize at Albany, in 1850, the committee award a certificate.

Two years old.

1st, E. P. Prentice, Mt. Hope, Albany county, "Dundee 2d,"..... $20
2d and 3d, (None awarded.)

One year old.

1st, James Brodie, Jefferson county, "Killburn,"..... 15
2d, E. P. Prentice, Mt. Hope, Albany county, "Dundee 3d,"..... 10
3d, Anthony Van Bergen, Coxsackie, Greene county,..... 5

Bull calf.

1st, E. P. Prentice, Mt. Hope, Albany county, "Dundee 4th,"..... 8
2d, J. C. Tiffany, Coxsackie, Greene county, "Repeal," ..... Trans. and 3

Cows, three years old.

1st, James Brodie, Adams, Jefferson county, "Mary Gray,"..... 30
2d, E. P. Prentice, Mt. Hope, Albany county, "Jennie,"..... 20
3d, E. P. Prentice, Mt. Hope, Albany county, "Red Lady,"..... 10

Two years old.

1st, J. C. Tiffany, Coxsackie, Greene county, "Red Lady," 20
2d, (None awarded).

One year old.

1st, E. P. Prentice, Mt. Hope, Albany county, "Katy 3d,"..... 15
2d, J. C. Tiffany, Coxsackie, Greene county, "Belle," 10
3d, (None awarded).

Heifer calves.

1st, E. P. Prentice, Mt. Hope, Albany county, "Red Lady 3d,"..... 8
2d, E. P. Prentice, Mt. Hope, Albany county, "Dolly 3d," ....Trans. and 3

GRADE—*Cows, three years old.*

1st, John Brown, Auburn, Durham cross, "Blossom,"..... 30
2d, George Clark, Springfield, Otsego county, "Snow-drop," Durham and Hereford,..... 20
3d, George Clark, Springfield, Otsego county, Durham and Hereford cross, 10

Two years old.

1st, J. C. Pool, Clinton, Oneida county, Devon and Native,..... 20
2d, Wm. R. Miller, Oneida county, Durham and Native,..... 15
3d, Gaius Butler, Clinton, Oneida county, Devon and Native,..... 10

One year old.

1st, Craig Wadsworth, Geneseo, Livingston county,..... 15
2d, Elon Sheldon, Sennett, Cayuga county, Durham and Native, ... 10
3d, S. H. Church, Vernon, Oneida county, Devon and Native, ... 5

Heifer calf.

1st, Joseph H. Eastman, Marshall, Oneida county, Devon and Native, ... $8
2d, Charles Mason, Vernon, Oneida county, Devon and Native...Trans. and 3

Commended.

John Brown, Auburn, Durham cross, ...Trans.

NATIVES—*Cows.*

1st, Elisha Williams, New Hartford, ... 30
2d, Joseph H. Eastman, Marshall, ... 20
3d, Charles Downer, New Hartford, Oneida county, ... 10

Two years old.

1st, Richard M. Hunt, Kirkland, ... 20
2d, E. H. Morgan, Marcy, Oneida county, ... 15

Heifers.

1st, Seth Miller, New Hartford, ... 8
2d, (None awarded).

WORKING OXEN.

1st, best 20 yoke (county)—(None awarded).
2d, " S. M. Mason and others, New Hartford, ... 40
1st, " 10 yoke (town), J. S. Wadsworth, Geneseo, ... 30
2d, " E. Sheldon, Sennett, Cayuga county, ... 20
3d, " (None awarded).
1st, " single yoke, N. B. Wakeman, Covert, Seneca, ... 20
2d, " George Clark, Springfield, Otsego, ... 15
3d, " A. Ross, Preston, Chenango, ... 8

Commended.

Horatio N. Carey, Marcy, Oneida, 1 yoke spayed working heifers, ... 5

THREE YEARS OLD STEERS.

1st, best 10 yoke (county), F. D. Blackstone & Co., New Hartford, ... 25
2d, " (None awarded).
1st. " single yoke, Hiram P. Potter, East Hamilton, Madison county, .. 12
2d, " E. Sheldon, Sennett, Cayuga, ... 10
3d, " Luther Comstock, Kirkland, Oneida, ... 5

Highly commended.

Simon Antisdell, Middlefield, Otsego county, ...Trans.
Horatio N. Carey, Marcy, Oneida county, ...Trans.
Luther Comstock, Kirkland, Oneida county, ...Trans.
George Sheldon, Conquest, Cayuga county, ...Trans.

TWO YEARS OLD STEERS.

1st, best 10 yoke, (county)—(None awarded.)
2d, " James H. Sherrill, New Hartford, ... 10
1st, " single yoke, G. Sheldon, Cayuga county, ... 10

2d, best, Charles Mason, Vernon, Oneida county, ... $8
3d, " John W. Williams, Whitesboro'.....Trans. and 3
1st " boys' training, Henry Comstock, entered by L. Comstock, Silver Medal.
2d, " (None awarded.)

Commended.

Morris Owen, West Winfield, 1 pr. Durham calves,.....S. S. Med.

ONE YEAR OLD STEERS.

1st, best single yoke, Daniel M. Brown, Brookfield, Madison county,.... 8
2d, " Sam. H. Hammond, Brookfield Madison county,..... 6
3d, " William Robson, Westmoreland, Oneida county,.....Trans. and 3
1st, " boys' training, John Robson (under 16,) Westmoreland, Oneida county,.....Silver Medal.
2d, " (None awarded.)

Commended.

George Clark, Springfield, Otsego county,.....Trans.

MILCH COWS—*Commended.*

1st, Seth Miller, New Hartford, Oneida connty,.....Trans.
2d, Elias Thomas, Checkerville,.....Trans.

FAT CATTLE—*Four years old.*

1st, Craig Wadsworth, Geneseo,..... 25
2d, Charles Wadsworth, Geneseo,..... 15

Single Ox.

1st, Hiram P. Potter, East Hamilton, 4 years old,..... 12

Cow—Four years old.

1st, E. Sheldon, Sennett, Cayuga county,..... 12
2d, A. Ross, Preston, Chenango county,..... 8

Heifers.

1st, John W. Taylor, Lima, Livingston county,..... 10
2d, H. H. Kellogg, Clinton, Oneida county,..... 5
3d, H. N. Carey, Marcy, Oneida,.....Trans.

Commended.

J. W. Taylor, Lima, Livingston county, 40 head 3 years old steers, ...Trans.

AGES OF STOCK.

An application having been made to the Executive committee to examine the awards of the committee on Devon cattle, the same was duly considered, and the annexed report of the proceedings of the committee, will show that the matters were fully inquired into, and that the awards in the respective cases were made in strict conformity to the regulations of the society.

NEW-YORK STATE AGRICULTURAL SOCIETY, }
Utica, Sept. 9, 1852. }

At a meeting of the Executive committee, September 9th, a remonstrance signed by Joseph H. Eastman and others, was presented, in relation to the award of the committee on Devon Bulls on the bull "May Boy," owned by Mr. Wainwright, awarded a premium as a one year old bull; and also in relation to the age of the Devon heifer "Red Bird."

The rules of the Society require that all animals 3 years old or under, shall have their ages determined by the *time* of their birth. The evidence in the case of the bull "May Boy," was furnished by the owner to the judges, at the time he was examined. The bull was dropped on the 30th day of *September*, 1850, and could not compete in any other class than that in which he was entered as a one year old bull. The heifer "Red Bird," entered as a two year old, was calved February 14th, 1850, and was properly passed upon as a two years old.

Mr. Wainwright presented to the committee, the record of the age of the bull, as received from his breeder, Mr. George Turner, England; and the bull is duly registered in the English Devon Herd Book, as calved September 30th, 1850. The heifer was proved, by the certificate and affidavit of Mr. Wainwright, to have been dropped February 14th, 1850, and competed last year as a one year old, without question; and the Executive committee are unanimously of the opinion, that the award of the committee, so far as the ages of the animals are concerned, is in strict conformity with the rules of the Society, which were adopted at the suggestion of gentlemen interested in Devon cattle, who desired that evidence should be adduced, of the ages of animals, dating from their birth.

B. P. JOHNSON, *Sec'y.*

HORSES.

ALL WORK—*Stallions, four years old.*

1st, Daniel North, Middlefield, Otsego county, "Gifford Morgan,"..... $30
2d, Truman D. Derick, Troy, Rensselaer county, "Young Norman,".... 20
3d, Mark Gill, Pittsfield, Otsego county, "Highlander,"..... 10
4th, J. D. Remington, Sennett, Cayuga county, "Young Black Hawk," Youatt.

Commended.

S. A. Gilbert, East Hamilton, "Young Gifford Morgan,".....Trans.
John Rosevelt, Northampton, Fulton county, "Black Hawk,".....Trans.
Eli Rudd, Ellisburgh, Jefferson county, "Young Mountain Morgan,"...Trans.
Truman Cone, Denmark, Lewis county, "Black Blucher,".....Trans.
Ira Brayton, Fort Ann, Washington county, "American Eagle,".....Trans.
John K. Tucker, Buffalo, "Young Defiance,".....Trans.

Mares and Foals.

1st, Samuel Baker, Edmeston, Otsego county,..... 30
2d, Horatio Curtis, Clinton, Oneida county,..... 20
3d, Richard S. Tracy, Pompey, Onondaga county,..... 10
4th, Elias Thomas, Volney, Oswego county,.....Youatt.

DRAUGHT—*Stallions.*

1st, Cornelius Scobie, Springport, Cayuga county, "Interest,"..... 30
2d, Charles Peck, Van Buren, Onondaga county, "American Messenger," 20

THOROUGH BRED—*Commended.*

The thorough bred horse "Consternation," owned by J. B. Burnet, Syracuse having heretofore received the first premium, is awarded a CERTIFICATE by the Judges.

Three years old Stallions.

1st, Orin H. Pownell, Ridgway, Orleans,..... 25
2d, John F. Hager, Verona, Oneida county,..... 12
3d, Ira Carrier, Fulton, Oswego county,..... 5
4th, Horace Wood, Deerfield, Oneida county,.....Youatt

Mares.

1st, Obadiah Howland, Owasco, Cayuga county,..... 25
2d, J. M. Gillett, Clyde, Wayne county,..... 12
3d, F. A. Spencer, Westmoreland, Oneida county,..... 5
4th, R. A. Avery, Vernon, Oneida county,.....Youatt

Stallions, two years old.

1st, M. D. Burnet, Syracuse, "Tiptoe," 15
2d, Barnes Davis, Vernon, Oneida county,..... 10
3d, R. M. Remington, Sennett, Cayuga county, "Young General Gifford," .....Youatt

Mares.

1st, M. Leyden, Jr., De Witt, Onondaga county, ... $15
2d, Obadiah Howland, Owasco, Cayuga county,..... 10
3d, S. A. Gilbert, East Hamilton,.....Youatt

Commended.

1st, Volkert Vrooman, Mohawk, "Waxy Pope,".....Trans.
2d, David W. Shaw, Gaines, Orleans, "Empire."..... Trans.
3d, Mrs. Matilda Hibbard, Syracuse, "Hornblower,".....Trans.
4th, L. Tower, Oswego, "Morgan Messenger,".....Trans.

Stallions, one year old.

1st, Charles W. Ingersoll, Lodi,..... 10
2d, Wm. R. Kirby, Bainbridge,..... 5
3d, Calvin Shattuck, Marcy,.....Youatt

Matched Horses—*Carriage.*

1st, Benjamin Ashby, Auburn,..... 20
2d, Olney Gould, Albion, Orleans,..... 15
3d, H. Gould, Albion, Orleans,..... 8
Special, to H. B. Moore, Rochester, pair gray horses,..... 20

Commended.

1st, D. S. Forbes, Chautauque county, ...Youatt
2d, P. D. Livingston, Auburn, ...Trans.
3d, E. M. Parsons, Rochester,.....Trans.
4th, Josiah Barber, Auburn, ...Trans.
5th, S. White, Jr., New-Haven, Oswego county,.....Trans.
6th, Edward Dewey, Deerfield, Oneida county, ...Trans.

Draught.

1st, John Bryden, Kirkland, Oneida county,..... 20
2d, J. A. Holmes, Hastings,..... 15
3d, Boyce & Avery, Paris, Oneida county,..... 8
4th, Nathaniel S. Wright, Vernon, Oneida county,.....Youatt

Ten pair farm horses.

1st, Squire M. Mason and others, New-Hartford, ... 25

Geldings.

1st, M. G. Varney, Prospect, Oneida county,.....Dip. and 10
2d, L. R. Proctor, Hartwick, Otsego county,..... 8
3d, Wm. H. Hills, Rome, ... 6
4th, Jonathan Bliss, Floyd,.....Youatt

Special premiums.

Clark & Jeralman, Whitestown, sorrel horse,..... 10

Single mares.

1st, W. V. Willoughby, Newport,.....Dip. and $10
2d, H. B. Moore, Brighton, Monroe county,..... 8
3d, Daniel W. Curtis, Canaan,..... 6
4th, J. Tanner, Schuyler,.....Youatt

Commended.

1st, M. L. Hungerford, Watertown, Jefferson county,.....Trans.
2d, Horace Shepherd, New Hartford,.....Trans.

Foreign horses.

Blood Stallion, E. Adams, Vergennes, Vt., "Black Hawk, Jr.,"..Dip. and 15

All work.

Best stallion, Silas Hale, South Royalton, Mass., "Green Mountain Morgan,".....Dip. and 15

Draught.

Best stallion, John C. Wilson, Guelph, C. W., "John Long,"...Dip. and 15

Commended.

Newell Miner, Simsbury, Conn., "Morgan,".....Trans.
F. A. Wier, Walpole, N. H., "Gifford Morgan," .....Tran

JACKS AND MULES.

Jacks.

P. Ward, Owego, ... 30

Mules.

H. H. Kellogg, Clinton,..... 25

SHEEP.

FAT SHEEP—LONG WOOLED—*Over two years.*

1st, Hungerford & Brodie, Adams, Jefferson county,..... 6
2d, Elias L. Barlow, La Grange, Dutchess co.,..... 4

Under two years.

1st, John McDonald, Warren, Herkimer county, ... 6
2d, John McDonald, Warren, Herkimer county, ... 4

MIDDLE WOOLED—*Over two years.*

1st, John McDonald, Warren, Herkimer county, ... 6
2d, John McDonald, Warren, Herkimer county,..... 4

CROSS BREED—*Over two years.*

1st, Richard Gypson, Westmoreland,..... 6

LONG WOOLED—*Bucks over two years.*

st, Hungerford & Brodie, Adams, Jefferson county,..... $12
2d, James A. Jackson, Gilbertsville, Otsego county,..... 10
3d, Elias L. Barlow, La Grange, Dutchess county,..... 6

Bucks under two years old.

1st, John A. Rathbun, Springfield, Otsego county,..... 12
2d, John McDonald, Warren, Herkimer county,..... 10
3d, Amos T. Wood, Ellisburgh, Jefferson co., ... 6

Five ewes over two years old.

1st, Hungerford & Brodie, Adams, Jefferson county,..... 12
2d, Williams Rathbun, East Springfield, Otsego co., ... 10
3d, Elias L. Barlow, La Grange, Dutchess county,..... 6

Ewes under two years old.

1st, Hungerford & Brodie, Adams, Jefferson county,..... 12
2d, John McDonald, Warren, Herkimer county, ... 10
3d, John A. Rathbun, Springfield, Otsego county,..... 6

Buck Lambs.

1st, Elias L. Barlow, La Grange, Dutchess county,..... 8
2d, Jacob C. Rathbun, Springfield, Otsego county,...Morrell's Shep'd & 4

Ewe Lambs.

1st, Williams Rathbun, East Springfield, ... 8
2d, Elias L. Barlow, La Grange, ...Morrell's Shep'd and 4

Commended.

1st, J. A. Jackson, Gilbertsville, buck lambs,.....Trans.
2d, John McDonald, Warren, Herkimer county, lambs,.....Trans.
3d, Elias L. Barlow, La Grange, Dutchess county, yearling ewes.....Trans.

MIDDLE WOOLED—*Bucks over two years old.*

1st, Z. B. Wakeman, Herkimer,..... 12
2d, Z. B. Wakeman, Herkimer,..... 10
3d, Z. B. Wakeman, Herkimer,..... 6

Bucks under two years old.

1st, Z. B. Wakeman, Herkimer,..... 12
2d, Z. B. Wakeman, Herkimer,..... 10

Five Ewes over two years old.

1st, J. M. Sherwood, Auburn,..... 12
2d, Z. B. Wakeman, Herkimer,..... 10
3d, Charles W. Eells, Westmoreland,.....

Five Ewes under two years old.

1st, Z B. Wakeman, Herkimer,..... $12
2d, Wm. Robson, Westmoreland,..... 10
3d, Geo. K. Eells, Kirkland,..... 6

Three Buck Lambs.

1st, Z. B. Wakeman, Herkimer,..... 8
2d, J. M. Sherwood, Auburn,.....Morrell's Shep'd & 4

Three Ewe Lambs.

1st, Z. B. Wakeman, Herkimer,..... 8
2d, J. M. Sherwood, Auburn,.....Morrell's Shep'd & 4

MERINOS—*Bucks over two years old.*

1st, J. D. Patterson, Westfield, Chautauque county,..... 12
2d, Sharp & Taylor, Lockport,..... 10
3d, Reed Burrit, Burdet, Tompkins county,..... 6

Under two years old.

1st, Sharp & Taylor, Lockport,..... 12
2d, Arza Gage, De Ruyter, Madison county,..... 10
3d, Joseph Haswell, Hoosick, Rensselaer county, ... 6

Five Ewes over two years old.

1st, J. D. Patterson, Westfield, Chautauque county,..... 20
2d, Sharp & Taylor, Lockport, ... 10
3d, R. E. Keese, Keeseville, Clinton county,..... 6

Five Ewes under two years old.

1st, Joseph Haswell, Hoosick, Rensselaer county,..... 12
2d, R. E. Keese, Keeseville,..... 10

Three Buck Lambs.

1st, Joseph Haswell, Hoosick,..... 8
2d, R. E. Keese, Keeseville,.....Morrell's Shep'd and 4

Three Ewe Lambs.

1st, R. E. Keese, Keeseville Clinton co., ... 8
2d, Arza Gage, De Ruyter,.....Morrell's Shep'd and 4

WOOL.

1st, Fleeces, (none awarded),
2d, N. M. Dart, Harpersfield, Delaware county, ... 3

SAXONY—*Bucks, two years old and over.*

1st, Silas B. Crocker, Vernon, Oneida co., ... 12
2d, S. H. Church, " 10
3d, S. B. Crocker, " 6

Bucks, under two years old.

1st, S. H. Church, Vernon, Oneida co., ... $12
2d, S. B. Crocker, " 10
3d, S. H. Church, " 6

Five Ewes over two years.

1st, S. B. Crocker, Vernon, Oneida co., ... 12
2d, S. H. Church, " 10
3d, Joseph Haswell, Hoosick Rensselaer co., ... 6

Five Ewes under two years.

1st, S. H. Church, Vernon, Oneida co., ... 12
2d, S. B. Crocker, " 10

GRADE SHEEP—*Bucks over two years.*

1st, D. S. Curtis, Canaan, Columbia co., ... 12
2d, D. W. Curtis, " 10

Bucks under two years.

1st, D. W. Curtis, Canaan, Columbia co., ... 12
2d, D. S. Curtis, " 10

Five Ewes over two years.

1st, Joseph Haswell, Hoosick, Rensselaer co., ... 12
2d, D. S. Curtis, Canaan, Columbia co., ... 10
3d, D. W. Curtis, " 6

Five Ewes under two years.

1st, D. S. Curtis, Canaan, Columbia co., ... 12
2d, D. W. Curtis, " 10

Three Buck Lambs.

1st, D. S. Curtis, Canaan, Columbia co., ... 8
2d, D. W. Curtis, " .....Morrell's Shepherd and 4

Three Ewe Lambs.

1st, Joseph Haswell, Hoosick, Rensselaer co., ... 8
2d, D. S. Curtis, Canaan, Columbia co , ...Morrell's Shepherd and 4

FOREIGN SHEEP—LONG WOOLED—*Bucks.*

George Miller, Markham, C. W., ... 10

Five Ewes.

Wm. Miller, Jr., Cobourg, C. W., ... 10

MIDDLE WOOLED—*Buck.*

Ralph Wade, Jr., Cobourg, C. W., ... 10

Five Ewes.

Ralph Wade, Jr., Cobourg, C. W., ... $10

Three Buck Lambs—Long Wooled.

George Miller, Markham, C. W., ... 5

MERINOS—*French Buck.*

Daniel Kimball, Clarendon, Vt., ... 10

Five French Ewes.

O. F. Holliburd and D. Kimball, Shelburne, Vt., ... 10

SWINE.

LARGE BREED.—*Boar over two years.*

Isaac W. Curry, South Trenton, Oneida co., ... 10

Boar, one year.

Z. B. Wakeman, Herkimer, ... 10

Boar, six months.

1st, Otis Simmons, Madison, ... 8
2d, Morris Hicock, New Hartford, ... 4

Sows, two years old and over.

1st, Isaac W. Curry, South Trenton, ... 10
2d, George K. Eells, Clinton, ... 5

Sow, one year.

John Jeffers, Kirkland, Oneida co., ... 10

SMALL BREED—*Boar, one year old.*

1st, Almond Barnard, Marshall, Oneida co., ... 10

Boar, six months.

1st, Henry Dodge, Trenton, Oneida co., ... 8

Sows, two years old.

1st, L. T. Marshall, Vernon, Oneida co., ... 10
2d, Z. B. Wakeman, Herkimer, ... 5

Sow, one year.

1st, A. L. Fish, Litchfield, Herkimer co., N. Y., ... 10
2d, Elisha Williams, New Hartford, Oneida co., ... 5

Sow, six months.

1st, Henry Dodge, Trenton, Oneida co., ... 8

Lot Pigs.

1st, A. L Fish, Litchfield, N. Y., ... 10

Commended.

James Plant, Utica, lot of four fine pigs,..... $5

POULTRY.

Dorkings.

1st, D. P. Newell, Rochester, ... 3
2d, J. M. Sherwood, Auburn..... 2

Polands.

1st, Jacob Harper, New Hartford..... 3
2d, F. R. Farwell, Watertown,..... 2

Black Spanish.

1st, T. Wright, Utica,..... 3
2d, Thomas I. Pritchard, Queens county,..... 2

Buff Shanghaes.

1st, John Dimbleby, Utica,..... 3
2d, D. P. Newell, Rochester,..... 2

Shanghaes.

1st, D. P. Newell, Rochester,..... 3
2d, M. Van Duzen, Vienna,..... 2

Bantams.

1st, L. Durant St. George, New Hartford,..... 3
2d, John Walcott, Whitestown,..... 2

Game Fowls.

1st, Wm. Robson, Westmoreland,..... 3
2d, Thomas J. Sizer, Buffalo,..... 2

Turkeys.

1st, O. Howland, Owasco,..... 3

Bolton Grey Fowls.

1st, Charles Sanford, Clinton,..... 3

Small Ducks.

1st, John S. Clarke, Throopsville, ... 3
2d, Aaron C. Johnson, Marcy,..... 2

Guinea Hens.

1st, Russell Blackstone, New Hartford,..... 3
2d, J. W. Granby, Paris,..... 2

Geese, large.

1st, Obadiah Howland, Owasco,..... 3
2d, Lyman Avery, Clayville,..... 2

Geese, Chinese.

st, Wm. S. Potter, Utica,..... $3

Lot Poultry.

1st, D. P. Newell, Rochester,..... 10
2d, E. H. Bliven, Bridgewater,..... 5

Black Shanghaes.

1st, J. F. Ebensperger, Frankfort,..... 3
2d, Hiram Gillmore, Utica,..... 2

Pigeons.

1st, John Ross, New Hartford,..... 3

Commended.

J. W. Granby, Paris, for a lot of six Peacocks,..... 3
Lyman Avery, Clayville, Poultry,.....Trans.
Wm. M. Rowe, Utica, Hamburgh Golden Pheasants,.....Trans.
E. H. Bliven, Bridgewater, white Shanghae Fowls,.....Trans.
E. E. Platt, Albany, Long-eared Rabbits,.....Trans.
George Waterman, Utica, a lot of Fowls,.....Trans.
T. J. Sizer, Buffalo, a lot of Game Fowls,.....Trans.
Orin Hassam, Whitestown, four Ducks,.....Trans.
T. B. Miner, Clinton, a lot of Fowls,.....Trans.
N. Jones, New Hartford, Fowls and Rabbits,.....Trans.
Hiram Rice, Marcy, three Goslings,.....Trans.
Thomas Jones, Utica, Cochin China Fowls,.....Trans.
D. P. Newell, Rochester, Cochin China Fowls,.....Trans.

PLOWING.

1st, A. D. Grannis, Thomas Williams, plowman, Peter Auld's plow, New Hartford,..... 12
2d, Samuel Campbell, New-York Mills, Edward Hartness, plowman, Peter Auld's plow,..... 10
3d, Charles W. Eells, himself plowman, Peter Auld's Ne Plus Ultra plow, 8
4th, H. B. Bartlett, Utica, Joseph Grinnell, plowman, Ruggles & Co.'s Worcester plow,..... 6
5th, Erastus Kelsey, himself plowman, E. Davis' plow,..... 4
6th, A. L. Reed, himself plowman, Lord's plow,.....Trans.

BOYS.

1st, James Brydon, (under 21,) Kirkland, Peter Auld's plow,..... 12

FARM IMPLEMENTS.—No. 1.

Harrow.

1st, J. Rapalje & Co., Rochester,..... 6
2d, Z. B. Wakeman, Herkimer,..... 3

Corn Cultivator.

1st, J. Rapalje & Co., Rochester,..... $6
2d, J. S. & M. Peckham, Utica,..... 3

Fanning Mill.

1st, Jacob Clapper, Fort Plain,...., ... 10
2d, Samuel Cochrane, Petersburgh, Virginia,..... 5

Commended.

John Post, Fly Creek, N. Y.,.....Trans.

Corn Stalk Cutter.

1st, Taylor, Thomas & Co., New-York,..... 10
2d, J. Rapalje & Co., Rochester,..... 5

Hay Cutter.

1st, J. Rapalje & Co., Rochester,..... 6
2d, H. G. Merry, Ballston Spa., ...Trans. and 3

Horse Rake—Commended.

Jared Clark, Unadilla Forks,.....Vol. Trans.

Ox Yoke.

1st, S. E. Beard, Andover, Mass., Chase's patent,..... 2
2d, W. M. Mason, Elbridge, N. Y.,..... 1

Roller.

1st, James H. Sherrill, New Hartford,..... 10
2d, Bradley & Roman,..... 5
3d, J. Rapalje & Co., Rochester, Garden Roller,.....Vol. Trans.

Grain Separator.

G. B. Salmon, Elmira, J. L. Booth's Patent Grain Separator,.....Dip. Trans.
J. N. & D. Elmore, Elmira, do., ...Trans.

Single Farm Wagon.

1st, R. Lewis, Deerfield,.....Trans.
2d, David Nelson, Deerfield, double and single farm wagon,.....Trans.

Single Lumber Wagon.

Cady & Brothers, South Trenton,.....Trans.

IMPLEMENTS No. 2—*Plow Harness.*

1st, M. H. Lines, Utica,..... 5

Carriage Harness and Single Harness.

1st, M. H. Lines, Utica,..... 5

Churns.

1st, J. B. Norton, Albany, "Quaker Churn," $5
2d, Cuyler Tanner, Skaneateles,..... 2

Cheese Press.

1st, M. A. Hackley, Belleville, Jefferson county,..... 5
2d, Charles Taylor, Little Falls,..... 2

Twelve Milk Pans.

1st, J. & J. B. Larkin, Russia, Herkimer county, ... 3

Grain Cradle.

1st, J. G. Burritt, Catlin, Chemung county,..... 3
2d, Charles Clowe & Co., Port Byron,..... 2

Hay Forks.

1st, Paris Furnace Co., Clayville, Oneida county, D. J. Millard, agent, .. 3
2d, Chester Clark, Skaneateles,..... 2

Grass Scythes.

1st, Paris Furnace Co.,..... 3

Cradle Scythes.

1st, Paris Furnace Co.,..... 3

Scythe Snathe and Handle.

1st, Charles Clowe & Co., Port Byron,..... 3
2d, Nichols & Boley, Van Buren Center, Onondaga county,..... 2

Manure Forks.

1st, Paris Furnace Co.,..... 3
2d, J. Rapalje & Co., Rochester,..... 2

Hay Rigging.

1st, Benjamin Plant, New Hartford,..... 5

Wire Brooms.

1st, Charles H. Toll, Schenectady,..... 3

Twine Brooms.

1st, Charles H. Toll, Schenectady,..... 3
2d, John Richardson, Utica,..... 2

Dick's Anti-friction Lever Cheese Press.

This press having been overlooked by the committee, in consequence probably of the absence of the exhibitor, who was engaged on a committee, the Executive committee appointed a special committee to examine it, who, considering it superior to

anything they have ever seen in the way of a press, have awarded a Diploma and Silver Medal to Joseph E. Holmes, Holyoke, Massachusetts.

Highly Commended.

Paris Furnace Co., for Straw Forks, Bramble Scythes, Lawn ditto, Hay Knife, ...Trans.
John Richardson, Utica, 1 doz. Shaker Brushes,.....Trans.
Brown & Babcock, Unadilla Forks, extra Cast Steel Hoes,.....Trans.
J. Rapalje & Co., Rochester, six Potato Hoes,.....Trans.

IMPLEMENTS No. 3—*Portable Saw Mill.*

1st, E. W. Badger, Fly Creek, N. Y.,..... $10
2d, Emery & Co , Albany,..... 8
3d, E. W. Badger, Fly Creek,..... 5

Corn Sheller—hand-power.

1st, J. Rapalje & Co., Rochester,..... 6
2d, Zenas Wright, Utica,..... 4

Vegetable Cutter.

1st, J. Rapalje & Co., Rochester,..... 6

Portable Grist Mill.

1st, Edward Harrison, New Haven, Ct.,..... 10
2d, Hart & Munson, Utica,..... 5

Farm Scraper.

1st, Zenas Wright, Utica, ... 5

Dog Power Churning Machine.

1st, A. H. Randall, Verona, N. Y., ... 5

Pump.

1st, Hinman, Higley & Co., Utica,..... 5
2d, J. Rapalje & Co., Rochester,..... 3

Horse Hoe.

1st, Pierpont Seymour, East Bloomfield, ... 20

AGRICULTURAL IMPLEMENTS—*Most numerous and best collection.*

1st, J. Rapalje & Co., Rochester,..... 25
2d, Th mas Foster, Utica,..... 15

Agricultural Implemen's made in S ate—best collection.

1st, J. Rapalje & Co., Rochester, ... 25

Commended.

Portable Cider Mill, W. R. Lamphear, Lancaster, Pa.,.....Trans.
Portable Cider Mill, D. F. Phelps, Ashland county, Ohio,.....Trans.
Flour Packer and Improved Mill Spindle, John T. Noyes, Buffalo,..Dip. and $3

MACHINERY.

Drain Tile and Chimney Top.

J. W. Gregory, Clinton, Oneida county,..... 5

Commended.

Patent Portable Hydraulic Press, R. Dudgeon, N. Y.,.....Sm. Sil. Med.
Iron Curb for Chain Pump, Downs & Co., Seneca Falls,.....Dip.
Pumps and Garden Engine, Downs & Co., Seneca Falls,.....Silver Medal.
Model of Vertical and Horizontal Hay Press, L. Dederick, Albany, Silver Medal.
Machine for crushing, grinding and pulverizing ores, &c., E. & J. Bussing, New-York,.....Dip.
Steam Engine, D. A. Woodbury & Co., Rochester,.....Silver Medal.
Iron Farm Fence, M. P. Coons, Troy,.....Dip. and 10
Patten's Leather Splitting Machine, A K. Northrop, Deansville,.....Dip.

FARM IMPLEMENTS, TRIAL AT GENEVA, JULY, 1852.

Grain Reapers.

1st, T. D. Burrall, Geneva, Burrall's Reaper,.....Dip. and 50
2d, J. H. Manny, Wadham's Grove, Illinois, Manny's Convertible Reaper, for grain or grass,..... 30
3d, Seymour & Morgan, Brockport,..... 20

Mowing Machines.

1st, J. H. Manny, Wadham's Grove, Illinois,.....Dip. and 50
2d, Howard & Co., Buffalo, Ketchum's Mowing Machine,..... 30

Grain Drills.

1st, P. Seymour, East Bloomfield, N. Y.,.....Dip. and 25
2d, Bickford & Huffman, Macedon, N. Y.,..... 15
3d, S. R. Tracy, Newark, N. Y.,..... 10

Horse Power on the lever principle.

1st, J. A. Pitts, Buffalo,.....Dip. and 25
2d, Eddy, Dyer & Co., Union Village, Washington county, N. Y.,..... 15

Horse Power, endless chain principle.

1st, Emery & Co., Albany,.....Dip. and 25
2d, E. W. Badger, Fly Creek, N. Y.,..... 15

Iron Horse Power.

1st, B. H. Wakely, McLean, Tompkins county,.....Dip. and 25
2d, Eddy, Dyer & Co., Union Village, N.Y.,..... 15
3d, J. A. Pitts, Buffalo,..... 10

Thrashing Machines, with cleaning apparatus.

1st, J. A. Pitts, Buffalo, ...Dip. and $10
2d, Hall & Thompson, Rochester, ... 8

Thrashing Machines, without cleaning apparatus.

1st, Eddy, Dyer & Co., Union Village, N. Y., ...Dip. and 10

Seed Planters.

1st, Joshua Woodward, Haverhill, N. H., ...Dip. and 10

Cultivator, for general purposes.

1st, S. R. Tracy, Newark, Wayne county, ...Dip. and 10
2d, Henry Howe, Canandaigua, ... 8

Broadcast Sower.

1st, Pierpont Seymour, East Bloomfield, ...Dip. and 10

DAIRY.

BUTTER—*Twenty-five pounds in June.*

1st, Amos Goulding, Le Ray, Jefferson county, ... 15
2d, William Robson, Westmoreland, Oneida county, ... 10
3d, Mrs. James H. Dunbar, East Hamilton, Madison county, ... 5
4th, L. L. French, Warren, Herkimer county, ...Trans.

Fifty pounds at any time.

1st, James Parker, Trenton, Oneida county, ... 20
2d, Amos Goulding, Le Ray, Jefferson county, ... 15
3d, D. M. Crowell, Rome, Oneida county, ... 10
4th, Mrs. James H. Dunbar, East Hamilton, Madison county, ...Trans.

Girls under 21 years of age.

1st, Miss Susan H. Parker, Trenton, Oneida co., 17 years old, ..Silver Milk Cup
2d, " Fanny H. Denio, Rome, ...Butter Knives
3d, " Alice Gale, Piffard, Livingston county, ...Tea Spoons
4th, " Sarah E. Cummings, Verona, ...Small Silver Medal

CHEESE—*Over one year old.*

1st, Moses Eames, Rutland, Jefferson county, ... 20
2d, A. C. Clark, Henderson, Jefferson county, ... 15
3d, S. & D. Bonfoy, Winfield, Herkimer county, ... 10
4th, D. Richardson, Schuyler, Herkimer county, ... 5
5th, Daniel Eells, New Hartford, Oneida county, ...Trans.

Under one Year.

1st, Willard Green, Martinsburgh, Lewis county, ... 20
2d, Willett Vary, Harrisburgh, Lewis county, ... 15

3d, R. Bamber, Minden, Herkimer county,..... $10
4th, W. A. Peebles, Martinsburgh, Lewis county,..... 5
5th, Anson Rider, Litchfield, Herkimer county,.....Trans.

Half dozen Cheese Boxes.

1st, E. W. Wilcox, Winfield, Herkimer county,..... 2

Best Six Dairies.

From Lewis county, Edwin Pitcher, David Pitcher, Moses B. Pitcher, William George, Warren A. Peebles, L. D. Mason,..... 50

Best Three Dairies.

From town of Schuyler, Herkimer county, Warren Richardson, Duane Richardson and Jeremiah Tanner,..... 20
Two cheeses, weighing over 1,000 pounds, exhibited by Jesse Williams, Rome, Oneida county, were of most excellent quality, having been cured as perfectly as those of smaller size, and same age—a premium is recommended of..... 25

SUGAR.

1st, Joel Woodworth, Watertown, Jefferson connty,..... 10
2d, Almon Benjamin, Centreville, Allegany,..... 5
3d, Stephen Gifford, Watertown, N. Y.,..... 3
4th, A. Ross, Preston, Chenango county,.....Trans.

HONEY.

1st, Curtis Coe, Springport, Cayuga county,..... 5
2d, Abraham Myers, Mohawk, Herkimer county,..... 3
3d, J. S. Eastman, Deerfield, Oneida county,..... 2

GRAIN AND SEEDS.

White Winter Wheat.

1st, Samuel H. Church, Vernon, Oneida county,..... 10
2d, Luman Shepard, Marcellus, Onondaga county,..... 5

Red Winter Wheat.

1st, John Bryden, Kirkland, Oneida county,..... 10
2d, Abraham Bartlett, Paris, Oneida county,..... 5

Red Spring Wheat.

1st, George K. Eells, Kirkland, Oneida county,..... 10
2d, S. W. Abbott, Kirkland, Oneida county,..... 5

Rye.

1st, David Coonradt, Brunswick, Rensselaer county,..... 8
2d, Gaius Butler, Clinton, Oneida county,..... 4

Commended.

D. P. Bigelow, Barre Centre, Orleans county,.....Dip.

Oats.

1st, Abraham Bartlett, Paris, Oneida county,..... $8
2d, David Coonradt, Brunswick, Rensselaer county,..... 4

Barley.

1st, Wm. Robson, Westmoreland, Oneida county,..... 8
2d, Obadiah Howland, Owasco, Cayuga county,..... 4

Indian Corn.

1st, Robert Eells, Westmoreland, Oneida county,..... 10

Buckwheat.

1st, Gaius Butler, Clinton, Oneida connty,..... 5
2d, Obadiah Howland, Owasco, Cayuga county,..... 3

Flax Seed.

1st, H. Wier, Pittstown, Rensselaer county, ... 3

Hops.

1st, James H. Dunbar, East Hamilton, Madison county,..... 10

Timothy Seed.

1st, Luman Shepard, Marcellus, Onondaga county,..... 3
2d, S. J. Keyes, Deerfield, Oneida county,..... 2

Crops—Samples arranged on wagon or cart.

1st, D. M. Crowell, Rome, Oneida county,..... 20
2d, James H. Sherrill, New Hartford, Oneida county,..... 10

Commended.

Daniel L. Barker, Utica, 27 varieties field and garden seeds, imported,.... Dip.
Charlwood & Cummins, 14 Tavistock row, Covent Garden, London, samples of wheat, barley, and oats in the ear, beautifully arranged, and a large collection of grain and grass seeds,.....Small Gold Medal.
Wm. Wetmore, Paris, Oneida county, white seed corn, ... Dip.
Joseph Mercer, New-York Mills, Oneida county, sample of bird seed, new variety,..... Dip.
Wm. Robson, Westmoreland, Oneida county, barrel of peas, ... Dip.
L. L. French, Warren, Herkimer county, sample of peas,..... Dip.
John Gilbert, Belleville, C. W., 12 bushels very fine peas,.....Dip. and 3

VEGETABLES.

Celery.

1st, F. W. Boyce, Utica,..... 3
2d, C. F. Crossman, Rochester,..... 2

Cauliflower.

1st, N. Culver, Arcadia, Wayne county,..... 3

Brocoli.

1st, C. Spratt, Utica,..... $3
2d, C. Spratt, Utica, ... 2

White Turnips.

1st, L. L. French, Warren, Herkimer county,..... 3
2d, C. Spratt, Utica, ... 2

Carrots.

1st, J. B. Kaye, Marcy,..... 3
2d, C. F. Crossman, Rochester,..... 2

Beets.

1st, James Hallock, Whitestown, ... 3
2d, N. Culver, Arcadia, Wayne county,..... 2

Parsnips.

1st, Edward T. Marson, Marcy,..... 3
2d, J. B. Kaye, Marcy, ... 2

Onions.

1st, J. B. Morse, Cazenovia, ... 3
2d, J. B. Kaye, Marcy,..... 2

Cabbage.

1st, J. B. Morse, Cazenovia, ... 3
2d, James Hallock, Whitestown,..... 2

Tomatoes.

1st, Andrew Passenger, Albany,..... 3
2d, C. Spratt, Utica, ... 2

Purple Egg Plants.

1st, Andrew Passenger, Albany,..... 3
2d, J. B. Kaye, Marcy, ... 2

Sweet Potatoes.

1st, C. F. Crossman, Rochester, ... 3
2d, N. Culver, Arcadia, ... 2

Lima Beans.

1st, N. Culver, Arcadia,..... 3
2d, C. F. Crossman, Rochester,..... 2

Windsor Beans.

1st, C. Spratt, Utica,..... 3

Double Parsley.

1st, C. Spratt, Utica,..... 3
2d, C. F. Crossman, Rochester,..... 2

Garden Squashes.

1st, J. Hallock, Whitestown, ... $3
2d, J. B. Morse, Cazenovia, ... 2

Large Squashes.

1st, J. B. Kaye, Marcy, ... 3
2d, C. Spratt, Utica, ... 2

Field Pumpkins.

1st, C. Spratt, Utica, ... 3
2d, C. Spratt, Utica, ... 2

Yellow Seed Corn.

1st, O. Howland, Owasco, ... 3
2d, E. Williams, New Hartford, ... 2

White Seed Corn.

1st, J. Hallock, Whitestown, ... 3
2d, E. Williams, New Hartford, ... 2

Table Potatoes.

1st, J. Hallock, Whitestown, ... 3
2d, J. B. Morse, Cazenovia, ... 2

Best and greatest variety of Vegetables.

1st, J. Hallock, Whitestown, ... 10
2d, C. Spratt, Utica, ... 5

12 *Ears Seed Corn.*

Theodore Backus, Rochester, ... 2

New Vegetables.

Best new and valuable variety of vegetables, for new varieties of potatoes, of different sorts, to Rev. C. E. Goodrich, Utica, ...Vol. Trans. and 3
A special premium to Mr. Goodrich for his seedlings and for his care in their cultivation, ... 10

Sample Potatoes.

J. R. Miller, Deerfield, ...Vol. Trans.

Sample Onions, Carrots, and Parsnips.

Not regularly entered for premiums; but they are very superior, and entitle Charles A. Mann, Utica, to 3
M. Moore, Trenton Falls, very fine Chinese pumpkin or squash, ...Vol. Trans.

Yellow Seed Corn, Table Potatoes and Seedling Potatoes.

John Gilbert, Belleville, C. W., ...Vol. Trans.

Large Cucumbers.

Thorpe, Smith, Hanchett & Co., Syracuse, ...Trans.

Ohio Pinkeye Potatoes.

J. R. Miller, Deerfield, Oneida county, ...Vol. Trans.

FLOUR.

Flour, Indian Meal, &c.

Flour.

1st. M. B. Oviatt, Rochester, ... $10

Two samples of superior flour were exhibited, one manufactured by J. Lancaster, of Salina, and the other by C. H. Hopkins & Co., Utica; but as the requirements of the Society were not strictly complied with, no premiums can be awarded, but this notice is due to their flour.

Farina.

J. Lanmister, Salina, Onondaga county, ...Silver Medal

Smut Machine.

2d, Pease & Robbins, Floyd, Oneida county, ... 10

DOMESTIC MANUFACTURES.

Reeled Silk.

Mrs. Harriet Coburn, Stockbridge, Madison county, ... 5

Sewing Silk.

1st, J. F. Gurley, Morrisville, Madison county, ...Dip. and 5
2d, Mrs. Harriet Coburn, Stockbridge, Madison county, ... 3

WOOLEN GOODS—*Blankets.*

1st, D. N. Bosworth, Westmoreland, Oneida county, ... 10
2d, Mrs. Luman Shepard, Marcellus, Onondaga county, ... 8
3d, Mrs. J. Sweet, Marcy, Oneida county, ... 6
4th, Mrs. John Bullard, Kirkland, Oneida county, ... 4
5th, Mrs. H. Wier, Pittstown, Rensselaer county, ...Trans.

Woolen Cloth.

1st, Mrs. Ziba Clark, Skaneateles, Onondaga county, ... 10
2d, Mrs. S. W. Abbott, Kirkland, Oneida county, ... 8
3d, Mrs. Chester Clark, Skaneateles, ... 6
4th, Mrs. J. T. Van Namee, Pittstown, Rensselaer county, ... 4

Flannel.

1st, Mrs. M. L. Hungerford, Watertown, Jefferson county, ... 10
2d, Mrs. Joel B. Noyes, Vernon, Oneida county, ... 8
3d, Mrs. S. A. Bunce, Vernon, Oneida county, ... 6
4th, Mrs. Almond Barnard, Marshall, Oneida county, ... 4

Woolen Carpet.

1st, Mrs. Chester Clark, Skaneateles, Onondaga county,..... $12
2d, Mrs. H. Wier, Pittstown, Rensselaer county..... 10
3d, Mrs. Freelove Wilcox, Sherburne, Chenango county,..... 8
4th, Mrs. Amos D. Mix, Camden, Oneida county,..... 4

Commended.

Mrs. Chester Clark, Skaneateles, for stair carpet,.....Barry's Fruit Garden.

Hearth Rugs.

1st, Wm. Connell, Amsterdam, Montgomery county,..... 5
2d, Mrs. James T. Van Namee, Pittstown, Rensselaer county,..... 4
3d, Mrs. E. A. Rockwell, Camden, Oneida county,..... 3
4th, Mrs. D. W. Eames, Turin, Lewis county,..... 2

Rag Carpet.

1st, Mrs. Nathan Tanner, Willowvale, Oneida county,..... 8
2d, Mrs. H. Weir, Pittstown, Rensselaer county,..... 6
3d, Mrs. Luman Shepard, Marcellus, Onondaga county,..... 4
4th, Mrs. Samuel Fuller, Westmoreland, Oneida county,.....Sm. Silv. Medal.

Commended.

Horse Blankets, Mrs. Amos D. Mix, Camden, Oneida county,.....Vol. Trans.
Horse Blanket, Wm. Greenwood, Auburn,.....Vol. Am. Ins. Trans.
Boys' Caps, Mrs. B. R. Voorhees, Amsterdam,.....Barry's Fruit Garden.
Silk Hose, Mrs. Sylvester Norton, Troy,.....Barry's Fruit Garden.
Flannel Shirts, Mrs. D. E. Mixter, Warren, Herkimer county,....Vol. Trans.

COVERLETS, &c.

Coverlets.

1st, Mrs. S. A. Bunce, Vernon, Oneida county,..... 8
2d, Mrs. Lucy Newell, Skaneateles, Onondaga county,..... 6
3d, Mrs. John W. Lewis, Utica,..... 4
4th, Mrs. J. Sweet, Marcy, Oneida county,..... 3

Kersey.

1st, Mrs. H. Weir, Pittstown, Rensselaer county,..... 8
2d, Mrs. James T. Van Namee, Pittstown, Rensselaer, county,..... 6
3d, Mrs. Ziba Clarke, Skaneateles, Onondaga county,..... 4
4th, S. W. Abbott, Kirkland, Oneida county,..... 3

Woolen Knit Stockings.

1st, Mrs. C. McKnight, Syracuse,..... 3
2d, Mrs. Gaius Butler, Clinton, Oneida county,..... 2
3d, Mrs. Wm. C. Burritt, Marshall, Oneida county,..... 1

Woolen Wove Stockings.

1st, Mrs. C. McKnight, Syracuse, ... 3

Woolen Fringe Mittens.

1st, Mrs. J. T. Van Namee, Pittstown,..... $2
2d, Mrs. J. B. Noyes, Vernon,..... 1

Commended.

Lot woolen hose and yarn, Mrs. Sylvester Norton, Troy,.....Vol. Trans.

LINEN.

Linen, Ten Yards.

1st, Mrs. James T. Van Namee, Pittstown, Rensselaer county,..... 10
2d, Mrs. Ziba Clark, Skaneateles, Onondaga county,..... 8
3d, Mrs. S. A. Bunce, Vernon, Oneida county,..... 6
4th, Mrs. Samuel Collins, Paris, Oneida county,..... 4

Diaper.

1st, Mrs. John Bullard, Kirkland, Oneida county,..... 8
2d, Mrs. S. W. Abbott, Kirkland, Oneida county..... 6
3d, Miss Emily J. Clark, Pittstown, Rensselaer county,..... 4
4th, Mrs. H. Weir, Pittstown, Rensselaer county,..... 2

Tow Cloth.

1st, Mrs. H. Weir, Pittstown,..... 5
2d, Mrs. E. B. Dewey, Manchester, Ontario county,..... 3

Cotton Knit Stockings.

1st, Mrs. L. W. Bartlett, Paris, Oneida county,..... 3
2d, Mrs. Chester Clark, Skaneateles,..... 2
3d, Mrs. H. Weir, Pittstown,..... 1

Linen Knit Stockings.

1st, Mrs. Marilla Benton, Sherburne, Chenango county,..... 3
2d, Mrs. E. B. Dewey, Manchester, Ontario county,..... 2
3d, Mrs. Freelove Wilcox, Sherburne,..... 1

Linen Wove Stockings.

2d, Mrs. Catharine McKnight, Syracuse,..... 2

Linen Thread.

1st, Mrs. Chester Clark, Skaneateles,..... 2
2d, Mrs. Catharine McKnight, Syracuse,..... 1

Commended.

Damask Table Cloth and Kersey Toweling, Mrs. Freelove Wilcox, Sherburne,.....Vol. Trans. and Barry's Fruit Garden.
Kersey Bag, Mrs. Luman Shepard, Marcellus,.....Vol. Trans.
Shirts and Collars, J. W. Browne, Utica,.....Dip.
Linen Horse Dress, Wm. H. Cornell, New-York,.....Dip.

MANUFACTURES.

Black Broadcloth.

Utica Steam Mill Company,..... Dip. and Trans.

Cotton Shirting, unbleached.

J. A. Sherman, Utica Cotton Mills, ...Dip. and Trans.

Woolen Shawls.

1st, James Roy & Co., West Troy, ...Dip. and Silver Medal.

Woolen Printed Shawls.

2d, Globe Mills, Utica,.....Trans. and Small Silver Medal.

Cottonades, Sheetings, &c.

New-York Mills, B. S. Wallcott, agent, ...Small Silver Medal.

Cotton Batting.

Joseph Palmer, New-York Mills, ...Vol. Trans.

Cassimeres.

Adolphus Morse, Eaton, Madison county, ...Vol. Trans.

NEEDLE, SHELL, AND WAX WORK.

Ornamental Needlework.

1st, Miss Mary Wolcott, Penn Yan, Yates county,..... $3
2d, Mrs. J. Hackett, Utica,..... 2
3d, Mrs. E. W. Hopkins, Rome, Oneida county,..... 1

Ottoman Covers.

1st, Mrs. W. O. Laird, Floyd, Oneida county,..... 3
2d, Mrs. M. E. Perry, Utica,..... 2
3d, Mrs. E. W. Hopkins, Rome,..... 1

Table Covers.

1st, Mrs. Henrietta Otis, DeRuyter, Madison county, ... 3
2d, Miss Sarah R. White, Canaan, Columbia county, ... 2
3d, Mrs. A. Eggleston, Windsor, Broome county, ... 1

Group Flowers.

1st, Miss R. Denner, Utica,..... 3
2d, Mrs. H. D. Babcock, Marcy, Oneida county,..... 2
3d, Morris Clark, Utica,..... 1

Worsted Work.

1st, Mrs. E. W. Hopkins, Rome, ... 3
2d, Mrs. L. M. Babcock, Utica,.. 2
3d, Mrs. S. Bailey, Rome, ... 1

Fancy Chair Work.

1st, Miss Frances Sanger, Utica,..... $ 3
2d, Mrs. C. A. Glatt, Whitestown, Oneida county,..... 2
3d, Miss S. R. Vines, Utica,..... 1

Worked Cushion and Back.

Mrs. S. Bailey, Rome,..... 3

Worked Collars and Handkerchiefs.

1st, Mrs. J. P. Goodsell, Albany,..... 3
2d, Mrs. W. O. Laird, Floyd, Oneida county,..... 2
3d, Mrs. L. W. Bartlett, Paris, Oneida county,..... 1

Woolen Shawls.

1st, Mrs. J. F. Jones, Syracuse,..... 3
2d, Miss E. Pexton, Westmoreland, (blind)..... 2

Worked Quilts.

1st, Mrs. L. Convers, Ellisburgh, Jefferson county,..... 3
2d, Mrs. C. D. Burlingame, New-Haven, Oswego county,..... 2
3d, Mrs. S. Scovil, Westmoreland, Oneida county,..... 1

Silk Bonnets.

1st, Mrs. George Kincaid, Utica,..... 3
2d, Miss A. Sanford, Utica,..... 2
3d, Mrs. J. W. Brown, Utica,..... 1

Straw Bonnets.

Mrs. Samuel Fuller, Westmoreland,..... 3

Lace Capes.

1st. Mrs. L. M. Babcock, Utica,..... 3
2d, Mrs. J. Sheldon, Richmond, Ontario county,..... 2
3d, Miss E. Pexton, Westmoreland, (blind,)..... 1

Lamp Stand Mats.

1st, Miss Vashti Campbell, Utica,..... 3
2d, Miss Margaret Wilson, Oswego,..... 2
3d, Mrs. Daniel Eells, New Hartford,..... 1

Shell Work.

1st, Miss Elizabeth Poyner, Albany,..... 3
2d, Mrs. Leonard Cole, Chittenango, Madison county,..... 2
3d, Miss R. E. Merrill, Glen, Montgomery county,..... 1

Wax Flowers.

1st, Mrs. D. M. Heffron, Utica,..... 3
2d, Miss C. M. Randall, Utica,..... 2

Commended.

Miss Eliza Nickinson, New-York, regalia,.....Small Silver Medal.
Mrs. J. Hackett, Utica, a Down victorine,.....Small Silver Medal.
Mrs. Dr. Vedder, Schenectady, worsted fire screen,.....Small Silver Medal.
Master J. Kincaid, Utica, (12 years old,) Swiss cottage,...Small Silver Medal.
Mrs. Sarah A. Alderman, Canistota, Madison county,..... $3

Hearth Rug.

Mrs. H. Steele, East Bloomfield, Ontario county, ...Small Silver Medal.

Needle Work.

Miss E. Lucas, Kirkland, Oneida county, ...Small Silver Medal.
Miss Louisa B. Post, Boonville, Oneida county,.....Small Silver Medal.

Wrought Suspenders.

Mrs. W. C. Brown, Rochester, ...Small Silver Medal.

Embroidered Slippers.

Miss E. Bullard, Kirkland, Oneida county,.....Downing's Fruits.

Lace and Gloves.

Mrs. B. R. Voorhees, Amsterdam,.....Vol. Trans.

Bead Purse.

Mrs. A. Fggleston, Windsor, Broome county,.....Thomas' Fruits.

Ottomans.

Mrs. E. Little, Canajoharie, Montgomery county,.....Barry's Fruit Garden.

Lady's Work Case.

Mrs. M. E. Sweet, Marcy, Oneida county, ...Vol. Trans.

Fancy Chair Work.

Mrs H. B. Whipple, Rome,.....Silver Medal.

Shirts and Collars.

A. P. West, Troy, ...Dip,

Shirts.

Miss Ann Swan, Amsterdam, ...Small Silver Medal.

Chair Tidies.

Miss Elizabeth Lucas, Kirkland, Oneida county,.....Small Silver Medal.

Mrs. Chauncey Dygert, New-York, ...Small Silver Medal.

Lamp Mats and Table Covers.

Miss Sarah Ann Cole, Floyd, Oneida county,.....Sm. Silver Medal.

Specimens of American Manufactured Linen Thread.

American Thread Company, Mechanicsville, Saratoga co.,. Dip. and Silver Med.
(See Report of Mr. Delafield.)

Bead Purse.

Miss Lydia W. Bartlett, Paris,.....Small Silver Medal.

Stocking Yarn.

Mrs. Catharine McKnight, Syracuse,.....Small Silver Medal.

Woolen Yarn carded and spun by hand.

Mrs. H. P. Coburn, Stockbridge, ...Small Silver Medal.

Woolen Yarn and Stockings.

Miss Wealthy Starr, 72 years old, Vernon, Oneida county,. Small Silver Medal.

Table Covers and Slippers.

Mrs. Welcome Babcock, Utica, ...Downing's Fruits.

Embroidered Piano Cover.

Mrs. John Disbrow, Rochester,.....Downing's Fruits.

Patchwork Quilt.

Clarence A. Hulburt, Utica, (an invalid boy),.....Small Silver Medal.

Bed Quilts.

Miss Josephine A. Clark, Brookfield, Madison county,..Barry's Fruit Garden.
Mrs. Thomas L. Bogart, Utica,.....Norton's Prize Essay.
Mrs. Freelove Wilcox, Chenango county,.....Norton's Prize Essay.

A Quilt of Wreath of Roses.

Miss Delia Young, Elmira, Chemung county,.....Small Silver Medal.

Bed Cover.

Mrs. D. N. Bosworth, Westmoreland, Oneida county,....Norton's Prize Essay
Mrs. L. T. Marshall, Vernon, Oneida county,.....Downing's Fruits.

Worked Quilt, 2,200 letters.

Mrs. W. Osgood, Oswego Falls, Oswego county,.....Small Silver Medal.

White Quilt.

Mrs. L. O. Webster, Utica, ...Barry's Fruit Garden.

Quilt.

A girl, Auburn, exhibited through T. R. Hussey,.....Barry's Fruit Garden

Mrs. James Ward, Utica, ...Barry's Fruit Garden.

Case Stuffed Birds.

C. P. Davis, Utica,.....Downing's Fruits.
James Conlon, Utica,.....Downing's Fruits.

FLOWERS—PROFESSIONAL LIST.

1st, Ellwanger & Barry, Rochester, greatest variety and quality of flowers, ... $10
2d, A. Frost & Co., Rochester, ... 5
3d, Thorp, Smith & Co., Syracuse, ... 3

Roses.

1st, Ellwanger & Barry, Rochester, greatest variety, ... 5
2d, A. Frost & Co., Rochester, ... 3
1st, Thorp, Smith & Co., Syracuse, twenty-four blooms, ... 3
2d, F. Boyce, Utica,..... 2

Phloxes.

Ellwanger & Barry, Rochester, best 10 varieties, ... 3

Verbenas.

Ellwanger & Barry, Rochester, greatest variety,..... 5
A. Frost & Co., Rochester, 2d do do 3
F. Boyce, Utica, best 12 varieties,..... 2
Thorp, Smith & Co., Syracuse, 2d do,..... 1

German Asters.

A. Frost & Co., Rochester, best seedling,..... 2
Thorp, Smith & Co., Syracuse, 2d do..... 1
A. Frost & Co., Rochester, best collection, ... 5

AMATEUR LIST.

Mrs. W. Newcomb, Pittstown, greatest variety and quantity of flowers, Silver Medal.
F. Boyce, Utica, 2d do, ... 3

Dahlias.

E. M. Van Alstyne, Greenbush, greatest variety, ... 5
Mrs. W. Newcomb, Pittstown, 2d greatest variety, ... 3
E. M. Van Alstyne, best 12 dissimilar blooms,..... 3
Mrs. W. Newcomb, 2d do, ... 2
Mrs. W. Newcomb, 2d best 6 varieties, ... 1

Roses.

Mrs. W. H. Grinnell, Aurora, greatest variety, ...Silver Medal.
Mrs. E. B. Morgan, Auburn, best 6 dissimilar blooms,.....Silver Medal.

Phloxes.

Mrs. J. C. Hastings, Clinton, best 6 varieties, ... 3
Mrs. J. C. Hastings, do 3 do 2

Verbenas.

Mrs. S. D. Childs, Utica, greatest variety,..... $5
Mrs. J. C. Hastings, Clinton, 2d greatest variety,..... 3
Mrs. S. D. Childs, Utica, best 6 varieties, ... 3

German Asters.

Mrs. W. Newcomb, Pittstown, best collection,..... 5
Mrs. J. T. Van Namee, Pittstown, 2d best collection,..... 3

Pansies.

Mrs. S. D. Childs, Utica, best and greatest variety,..... 3

GENERAL LIST—OPEN TO ALL COMPETITORS.

F. Boyce, Utica, best collection of green house plants,..... 5
Thorp, Smith & Co., Syracuse, 2d do, ... 3
A. Frost & Co., Rochester, best floral design,..... 5
Thorp, Smith & Co., 2d do.,..... 3
Mrs. W. Newcomb, Pittstown, best floral ornament,..... 5
Mrs. Jane Dudgeon, New Hartford, 2d do,..... 3
James Wilson, Albany, best hand bouquet, flat,..... 3
Mrs. J. C. Hastings, Clinton, 2d do.,..... 2
James Wilson, Albany, best hand bouquet, round,..... 3
Mrs. Wm. Tracy, Utica, 2d do., ... 2
Mrs. W. Newcomb, Pittstown, best basket bouquet, handle, ... 3
Mrs. C. E. Goodrich, Utica, for the most beautifully arranged basket of flowers,..... 3
Mr. Fahnestock, Syracuse, best exhibition of dried specimen of plants, Silver Medal.
Mrs. Gloriana Dering, Utica, a fine collection of dried marine plants, Small Silver Medal.
Ward's case filled with a fine collection of green house plants, Mrs. M. Moore, Trenton Falls,.....Small Silver Medal.
Rustic work seats, picture frames, &c., from the Oneida community, by J. R. Miller, Jr., very faithfully and substantially constructed, ... Small Silver Medal.
Garden vases in bronze and cast iron, from Janes, Beebe & Co., New-York, Silver Medal.

FRUIT—AMATEUR LIST.

APPLES—*Twenty varieties.*

1st, N. & E. S. Hayward, Brighton, Monroe county,..... 10
2d, James H. Sherrill, N. Hartford, Oneida county,..... 7

Ten Varieties.

1st, H. R. Hart, Whitestown, Oneida county,..... 8
2d, James H. Sherrill, New Hartford,..... 5

E. G. Studley, Claverack, Columbia county, for a very choice apple, cultivated by him as a seedling, but on examination is believed to be the same as Duchess of Oldenberg,.....Downing's Fruits.

W. D. Walcott, Whitestown, lot of very fine bow apples,...Downing's Fruits.

N. & E. S. Hayward, Brighton, Monroe county, for their superior collection of apples, in addition to the first premium,.....Downing's Fruits.

PEARS—*Twelve varieties.*

1st, Henry Vail, Troy,..... $8
2d, P. Brintnall, Utica,..... 6

Six varieties.

1st, W. R. Coppock, Buffalo,..... 5
2d, Wm. Tracy, Utica,..... 3
3d, Henry Vail, Troy,..... 2
4th, Wm. C. Johnson, Utica,.....Thomas.

Collection of Pears.

Henry Vail, Troy, 70 varieties, cannot be too highly commended, Dip. & Hovey's Fruits.

H. G. Dickinson, Lyons, Wayne county, 1 doz. Bartlett pears, and 6 varieties of pears, very fine,.....Barry's Fruit Garden.

Capt. Wm. Mervine, Utica, 4 varieties,.....Barry's Fruit Garden.

Six varieties, very fine, entered after the awards were completed by the committee; on examination they recommended that a volume of Hovey's Colored Fruits, be presented to the exhibitor, Lewis Eaton, Buffalo.

Twelve Peaches.

H. G. Dickinson, Lyons, Wayne county,..... 3

Six varieties Peaches.

H. G. Dickinson, Lyons,.....Vol. Trans.

PLUMS—*Collection of Plums.*

1st. C. S. Wilson, Utica,..... 5
2d, Wm. Tracy, Utica,..... 3
3d, W. C. Johnson, Utica,..... 1

Four varieties.

1st, Capt. Wm. Mervine, Utica,..... 3
2d, J. T. Stevens, Utica,..... 2
3d, Wm. Tracy, Utica,.....Trans.

Twelve Plums.

Henry Vail, Troy,..... 2

Twelve Quinces.

1st, N. & E. S. Hayward, Brighton, Monroe county,..... $3
2d, A. D. Grannis, Kirkland,..... 2

GRAPES—*Collection of native, grown in open air.*

1st, Daniel Ayres Amsterdam,..... 5
2d, Capt. Wm. Mervine, Utica, ... 3
3d, C. P. Williams, Albany,..... 2

Three varieties, native or foreign, under glass.

1st, H. L. Suydam, Geneva, Ontario county, remarkably superior, ... 5
2d, John Greig, Canandaigua,..... 3
3d, Henry Vail, Troy,..... 2

Foreign Grapes.

Silas D. Childs, Utica, ...Downing's Fruits.

Sweet Water Grapes.

L. Cozzens, Utica,.....Downing's Fruits.

Foreign Grapes.

W. R. Coppock, Buffalo,.....Barry's Fruit Garden.

Minerva Grapes.

N. & E. S. Hayward, Brighton,.....Vol. Trans.

WATERMELONS—*Specimens.*

Wm. Gray, Marcy, Oneida county,..... 3

MUSKMELONS—*Specimens.*

1st, Levi Cozzens, Utica,..... 3
2d, Wm. Gray, Marcy,..... 2
3d, Silas D. Childs, Utica,..... 1

Collection.

1st, Wm. Gray, Marcy,..... 3
2d, T. P. Hart, Mohawk,..... 2
3d, H W. Rockwell, Utica,.....Downing.
4th, J. T. Stevens, Utica, nutmeg variety,.....Thomas.

Best town collection of Fruit.

Town of Kirkland, Oneida county..... 10

FRUIT—PROFESSIONAL LIST.

APPLES—*Twenty varieties.*

1st, A. Frost & Co., Rochester,.....Dip and 10.
2d, T. C. Maxwell & Co., Geneva,..... 7
3d, John Morse, Cayuga Bridge,..... 5
4th, J. J. Thomas, Macedon,.....Trans.

Ten varieties.

1st, John Morse, Cayuga Bridge,..... $8
2d, Thorp, Smith, Hanchett & Co., Syracuse,..... 5
3d, A. Frost & Co., Rochester, ... 3
4th, T. C. Maxwell & Co., Geneva,.....Downing.

Basket standard Fruit.

John Morse, Cayuga Bridge,..... 6

PEARS—*Twelve varieties.*

1st, Ellwanger & Barry, Rochester,..... 8
2d, John Morse, Cayuga Bridge,..... 6
3d, A. Frost & Co., Rochester..... 4
4th, Thorp, Smith, Hanchett & Co., Syracuse,.....Barry.

Six varieties.

1st, T. C. Maxwell & Co., Geneva,..... 5
2d, John Morse, Cayuga Bridge,..... 3
3d, Thorp, Smith, Hanchett, & Co., Syracuse,..... 2
4th, J. J. Thomas, Macedon,.....Thomas.

Best collection of newly introduced Pears.

Thorp, Smith, Hanchett, & Co., Syracuse, Dip. and Hovey's Colored Fruits.

PEACHES—*Six varieties.*

1st, John Morse, Cayuga Bridge,.....Dip. and 5
2d, do do do 3
3d, do do do 1

Three varieties.

1st, John Morse, Cayuga Bridge,..... 3
2d, do do do 2
3d, do do do .....Trans.

Twelve Peaches.

1st, John Morse, Cayuga Bridge,..... 3
2d, N. Culver, Arcadia, Wayne county, ... 2

PLUMS, &c.

Collection.

1st, C. Reagles & Sons, Schenectady,..... 5
2d, Ellwanger & Barry, Rochester,..... 3
3d, S. H. Ainsworth, West Bloomfield,..... 1

Four Varieties.

1st, Thorp, Smith, Hanchett & Co., Syracuse, ... 3
2d, John Morse, Cayuga Bridge, ... 2
3d, Henry Freeman, Richfield Springs,.....Trans.

Twelve Plums.

John Morse, Cayuga Bridge, ... $2

GRAPES.

Collection—Native, open air.

S. H. Ainsworth, West Bloomfield, best dish, ...Trans.
S. H. Ainsworth, commended for "Golden Chasselas,".....Barry.

WATERMELONS.

Specimens.

1st, C. F. Crossman, Rochester,..... 3
2d, A. Weaver, Deerfield, Oneida county,..... 2
3d, John Morse, Cayuga Bridge, ... 1

Collection.

1st, C. F. Crossman, Rochester,..... 3
2d, N. Culver, Arcadia, Wayne county, ... 2

MUSKMELONS.

Specimens.

1st, James Hallock, Whitestown,..... 3
2d, A. Frost & Co., Rochester,..... 2
3d, N. Culver, Arcadia, ... 1

Collection.

1st, N. Culver, Arcadia,..... 3

Commended.

J. B. Kaye, Marcy, for two large rough-skinned melons,.....Downing.

FOREIGN FRUITS.

Hovey & Co., Boston, Mass., 104 varieties of pears, Small Med. & vol. Trans.

PAINTINGS.

Painting Farm Yard.

Abner Willis, New-York,.....Dip.

Daguerreotype.

D. D. T. Davie & Brother, Utica, ... Silver Medal.

Eleven frames of proof impressions of wood Engravings.

Wm. H. Green, Utica,.....Dip.

Mono-Chromatic Paintings.

A. G. Shaver, Geneva,.....Dip.

COOKING STOVES.

Wood Stoves—Half-Moon Imp.

1st, Warren, Swetland & Co., Half-Moon, Saratoga,.....Silver Medal.

Charter Oak.

2d, J. S. & M. Peckham, Utica,.....Small Silver Medal.

Coal Stove—Golden Gate.

1st, J. S. & M. Peckham, Utica,.....Silver Medal.

Phœnix.

2d, G. W. Wood & Co., Utica,..... Small Silver Medal.

Cooking Range.

1st, J. Dimick, Troy,..... Silver Medal.

Furnaces.

1st, Glles & Walker, Rome, Oneida, ...Silver Medal.
2d, J. S. & M. Peckham, Utica, for iron cylinder ring coal furnace, ...
Small Silver Medal.

PARLOR STOVES.

Hall Stoves

1st, Warren, Swetland & Co., Saratoga coal burner, Saratoga county,....
Silver Medal.
2d, R. B. Thompson, New-York, ... Small Silver Medal.

Hollow Ware.

W. B. Durkee, Syracuse,..... Small Silver Medal.

Stoves—Commended.

Mallery & Ingalls, Troy,..... Trans.
G. W. Wood & Co., Utica,.....Trans.
Warren, Swetland & Co., Half-Moon, ... Trans.

SILVER WARE, &c.

Ames Manufacturing Company, Chicopee, Mass,.....Silver Medal.
do do for sword belts,.....Dip.

Silver Ware.

Hall & Brower, Albany,.....Silver Medal.

Table Cutlery.

South River Cutlery Company, Conway, Mass., Otis Childs, agent, ...Dip.

American Pocket Cutlery.

Waterville Manufacturing Company,.....Silver Medal.

Razors.

Fine sample, manufactured by the Gilchrist and Ramapo Razor Company,
Jersey city,.....Silver Medal.

REPORT OF COMMITTEE, No. 63.

DISCRETIONARY.

In making their report, your committee feel the responsibility resting upon them. The class of articles to which their attention has been drawn, are of the highest importance, and we can but wish the duty of examining and awarding upon their merits, had devolved upon others much more competent and able to do justice to all. However, your committee have patiently and closely examined all articles submitted them, and have made their awards fairly, and according to the merits of articles passed upon. The exhibition in this department has been highly satisfactory; not an article have we found but what is worthy of notice, while the great majority show a perfection of workmanship and finish it would be difficult indeed to excel. We will now to the subject matter of our report:

One model working steam engine, B. H. Wright, Rome, N. Y.,.. Dip. & Medal.

One card of brass and iron American butts, two models self-shutting gate, hinges and fastenings, one model patent blind butts and fasteners; Seymour, Brothers & Co., Westmoreland, Oneida county. These articles comprise a beautiful variety of specimens of Oneida county manufactures, very creditable and ingenious, which have already acquired great celebrity,..... Dip.

One Metallic Plumb Level, Bevel and Dividing square, comprised in one article very ingeniously and beautifuly made, and well adapted; William R. Stone, Utica, ...Vol. Trans.

One Metallic Lightning rod, (Pratt's patent,) Johnson & Brothers, Clockville, N. Y. It is claimed for this rod, that its attachments, connections and points are entirely different from those commonly in use, making it much more durable, beautiful and complete. Your committee have no reason to dispute these "*points*," and award.....Vol. Trans. and $3.

Lot of Brass cocks, Erastus Stebbins, Chicopee, Mass., excedingly well made, Vol. Trans.

Two setts Pipe boxes and skeins, A. E. Pettee, Clayville, N. Y.; a good article for which improvements are claimed.....Vol. Trans.

One case Bolts and Nuts, Whitesboro' Bolt Co., N. Y.; superiority claimed for strength and finish.....Vol. Trans.

Morse's Patent Sash and Gate fastener, attached to model, Orrin Morse & Co., Rochester. This article seems well adapted and well worthy of notice by the public.

One Wertz's Cast Iron water wheel, (submerged,) P. W. Siebert, Chambersburg, Pa.; a good wheel on the most approved principles. Claims to afford 20 per cent more power in proportion to water used than any other cast iron wheel, the power or action being direct, and at the same receiving the

benefit of the re-acting power of the water. Being submerged it is protected from ice and frost.....Small Medal and Vol Trans.

Darling's substitute for Cow Catcher, Cook Darling, Utica. This is claimed to be a decided improvement upon the article now in use, but your committee not being able to perceive its practicability refer it to the notice of railroad men generally.

One Pratt's patent Automatic Apple parer, J. Sargeant, Shelburne Falls, Mass.; a very ingenious and perfect contrivance to avoid personal labor; works expeditiously, evenly and surely,.....Thomas' Fruit Cult. and $2,

Five Horse Shoes, Michael O'Rourke, Utica; very good specimens, well made. Vol. Trans.

One Pipe box and arrangements for attaching hubs to axle of wagons, G. Davis, Syracuse; a good invention which comes well recommended,..... $3.

One Sun dial, Henry Simmons, Paris; an improved article, claimed to be more perfect in its operations than ordinary ones; can be put out on uneven surfaces or hill sides as well as upon level ground; in this particular a decided improvement, ...Vol. Trans.

One case of Breech loading and Self-cleaning fire arms, Marston's patent, W. W. Marston, N. Y. These Fire arms are exquisitely finished and capable of terrible efficiency, ...Small Medal.

Six cast steel Draw knives, Wells & Kendall, Clinton, N. Y. These knives, manufactured in Oneida county, are a very superior article, both in quality of material and finish, and are well worthy a.....Vol. Trans. and $3,

Seven Horse shoes, Matthew Sullivan, Mohawk, N. Y.; variety of patterns well made.....Vol. Trans.

One card Plane irons, John A. Berrill, Waterville, N. Y.; good article, Vol Trans.

Stanely & Co.'s Car wheels, (Atwood's patent,) Mallory & Ingalls, Troy, N. Y. Your committee cannot too strongly recommend the attention of railroad superintendents and the public generally, to these wheels. The variety of patterns, peculiar adaptation of the wheels to the rail, together with the strength and superior quality of the material used in their manufacture, make them probably the best car wheel now in use. They have attained a high celebrity, and are in use upon many of our most prominent railroads, and give entire satisfaction. The manufacturers use none but the very best materials in their manufacture, and are untiring in their efforts to make an article that hereafter shall much lessen the number of accidents by the breakage of wheels, and thus avert much human misery.

The form of the wheel appears to be well calculated to compensate for the unequal contraction of its different parts in cooling, and at the same time combine strength with lightness. The manner of cooling the wheels as described by the manufacturers and which we understand to be a patented process, is such as first to equalize the temperature, and then take off the heat from such part of it as to leave it perfectly free from strain. The specimens of metal as

shown in the broken parts of wheels, exhibit great tenacity, with a property for chilling in an eminent degree; and we are informed by the manufacturers that no pains or expense is spared in the selection of their iron, and forming such a compound as to embrace all the requisite qualities for a superior wheel. We award a.....Dip.

One Meat cutter, Z. Wright, Utica; a great masticator,.....Trans.

Two Fire Proof and Powder Lock safes, J. M. B. Davidson, Albany. These safes, so highly celebrated, both for their anti-burglar and salamander qualities, are too well known to the public to require notice at our hands. As a fire and thief proof safe, we doubt much if any thing can be brought in competition with it; and from the severe tests to which they have been exposed, and in every trial successfully, they well deserve the title of "*Fire King.*" We gladly award a.....Diploma and Large Silver Medal.

One Chuck for Milling fork handles, A. E. Pettee, Clayville, N. Y., an ingenious invention, deserving much credit,..... .Small Medal.

One Portable water closet, one case Tin and Bronze ware, one model of Chilson's Air warming and Ventilating furnace, Evans & Chatfield, Utica. The above articles are all well adapted to the purposes for which they were made; very useful and many quite beautiful; of their merits all must know, Dip.

One model Railroad brake, James H. Bushnell, Utica; claimed to be an entire new invention, superior to anything in use; of this the committe are not capable of judging, but refer the matter to the different railroad corporations, and award..... .....Vol. Trans. and $3.

Four Pipe boxes, three iron clamps, one cast iron Hand Sled, one Rigger screw and Coach Door clamps, Downes & Co., Seneca Falls; all nicely made, and well adapted and worthy of notice.....Small Medal and Vol. Trans.

One Wagon skein and box, Julius Bevins, Plainfield, N. Y.; improved cap and coupling.....Vol. Trans.

One set Locomotive and Steamboat Alarm bells, Brower & Hinman, Syracuse; powerful in tone, well constructed and finished.....Dip. and Small Medal.

One improved locomotive lamp, J. A. Williams, Utica. The improvement claimed for this lamp is its powerful refraction, giving an intensely brilliant light, and the ease with which it can be cleaned; it is highly recommended.....Dip.

One job printing power press, one card printing press, Jason L. Burdick, Utica. These presses are very ingeniously constructed and work admirably. The power press has its power applied by a vibrating lever, by which its operations are speedy and remarkably even. The platten is so constructed that it is kept evenly and directly over the type and bed of the press as they pass back and forth, thus giving plain, even impressions. The card press is simple in its construction, working perfectly and making its impressions plainly and without waste of card material.....Dip. and $5.

Ten varieties of Fairbanks' Patent scales, platform, counter, flour, &c., &c. E. & T. Fairbanks, St. Johnsbury. Vt. The high celebrity to which these

scales have every where attained, makes it needless for your committee to say any thing in commendation. Suffice it, that they as ever are most beautifully constructed, most evenly balanced, and exquisitely finished. The weight of the passing breath of air is enough to bear them down. Where these scales are used even handed justice to all is sure to be meted out. We award.....Dip. and Large Silver Medal.

Two Car axles, one sample of iron, Smith & Richardson, Utica. The strength of these axles is said to be almost supernatural. Your committee are satisfied from the specimen of iron exhibited, that there is more truth in these stories of strength than is ordinarily the case, and would respectfully commend them to the favorable notice of railroad corporations,.... Vol. Trans.

One patent Brick mill, Jackson, Riddle & Co., D. D. Whitney agent, invented by Jackson and the Riddles, near Cincinnati, Ohio. This mill manufactures bricks by pressure from untempered clay as it is taken from the bank, after passing through the pulverizing process. This mill is claimed to make from 80,000 to 120,000 nice pressed brick per day, requiring only about 15 hands to attend it. It is claimed that this mill will cost to the purchaser only about half what ordinary mills doing not half the work will cost. The specimen of brick made by this mill, presented to your committee, was exceedingly good. We award a.....Dip. and Vol. Trans.

Eight patterns iron railing, for fences and balconies, iron gates and window guards, two square fancy iron posts, one iron settee, two iron chairs, two hat and coat stands, four horse posts, skeins and boxes, umbrella stand, iron spittoons and fire stands ; Dana & Maynard, Utica. The above entry comprises a large variety of iron work, all useful, beautiful and very ornamental. The taste and ingenuity displayed in these iron constructions, elicited much admiration from your committee, and they commend them to the favorable notice of the Society and the public. We award a....Dip. and Large Medal.

Aumock's Cylindrical polisher, for scouring knives and forks, Wm. S. Aumock, N. Y. Your committee have been much pleased with this invention, and think that its general use will add much to the happiness of families and the well being of mankind. It is claimed that this is the only machine extant that will scour forks; every portion of the fork and knife is brightly polished, at the rate of a dozen pieces a minute, by this machine. The friction is slight and uniform, not wearing away the material, but brightly polishing. Rapidity of motion does the work, not force, and the whole operation is exceedingly simple and perfect. Will not every family procure this much to be desired machine, and thus give us what we all so much want, viz : clean knives and forks. We award a..... ....Dip. and $3

One Church bell, one factory bell, A. Meneeley's Sons, West Troy. These bells are from the celebrated manufactory of "Meneeley & Co., West Troy," and are musical specimens of monstrous masses of metal. The church bell exhibited weighed 2,050 pounds, and from the "touch of its quality" with

which they were favored, the ears of your committee have not as yet recovered. We unanimously award a..... .....Dip. and Medal.

One Spike drawer, D. Hale, Hinsdale, N. Y.; very ingenious and useful, Vol. Trans.

Lot of cast, turned and engraved white metal Brittania ware, John H. Whitlock, Troy. Your committee's eyes were greatly dazzled when called upon to examine this ware. Visions of services of plate, regally engraved and inscribed, floated through our brains. Great then was our astonishment when we found that the beautiful material before us was but brittania. We strongly advise our friend Whitlock, of Troy, to re-name his beautiful wares, in order that his friends and customers may not be so greatly astonished. Seriously however, your committee have yet to see any thing that contributed more to the show of beautiful articles than this self same ware. Its silvery whiteness and astonishing strength proclaim it of the purest metal composition, while its elegant shapes and magnificent engraving, vie strongly with the rich silver services of a "Ball & Black," or others of our silver services manufacturers. It was beautiful, and your committee were pleased, and award a Dip. and Large Silver medal.

One Lemonade fount, Walter Shead, Hartland, N. Y.; simple of construction, yet combining much that was tasteful and useful. From the "*taste*," your committee received of its qualities, we are prepared to pronounce it A, No. 1, and award.....Trans.

Erkson's patent double-guage clevis, G. Erkson, New-York. Claimed to be altogether superior to any extant.....Small Medal.

One Hyde's Graduating tuyre iron and portable forge, J. Dimick & Co., Troy. These articles are highly recommended, and your committee were strongly impressed with their utility and appearance, and award..Vol. Trans. and $3.

Counter and platform scales, R. R. beam and fixtures, 40 ton scales, S. S. Hitchcock, Rochester; beautifully made.....Dip. and $3.

One improved R. R. truck, D. W. Eames, West Turin, N. Y. Claimed to be superior on curves, ingeniously made; but not practical in its operations, in the judgment of your committee,.....Vol. Trans.

Model of Agricultural engine, made by a boy, James H. Parker, Trenton, N. Y., 16 years old. The committee could not find anything particularly new in the invention; but consider the construction of such a model by a boy 16 years old as evidence of mechanical ingenuity strongly to be commended,Trans. and $3.

One staple and two rings for ox yokes, Clark Lewis, Verona, N. Y., Vol. Trans.

Two expanding horse shoes, Hiram Rose, Utica,.....Vol. Trans.

Four sizes cast iron pipe boxes and skeins, O. P. Nellis, Whitestown, N. Y., Vol. Trans.

One Excelsior paging machine, B. S. Merrill, Utica. This machine attracted much attention and deservedly. Its construction and arrangement is admira-

ble and seems fully capable of doing its work quickly and well. It is so arranged as to page to the No. of 1,200; power applied as in the ordinary manner, from the foot. The inventor deserves much credit for the beauty of construction and easy arrangement and working of his machine. We award him a.....Small Medal.

One model car axle, Wm. S. Loughborough, Victor, N. Y. Claimed to be an anti-friction axle, and of course a great improvement upon those generally used. It is simple and apparently practical.....Vol. Trans.

Improved car brake, G. L. Ackerman, Troy. It is claimed for this brake that by the application of power in an entirely new way, the progress of a train is much more easily checked, and at the same time without the usual wear and tear of ordinary breakages. At the same time and by the same arrangement a car axle in breaking would be prevented from falling upon the track; or to do any of the serious injury that generally results. The arrangment is simple and apparently practical; and it is warmly recommended by railroad engineers. We call the attention of our appointed railroad committee to this brake, and award a.....Dip. and $3

One cast iron well curb, for chain pump; McClary & Powis, Seneca Falls. Design and construction beautiful and ornamental,.....Vol. Trans.

One case of Civil Engineers and Surveying instruments; W. & L. E. Gurley, Troy, consisting of levels, compasses, transit instruments, &c., &c., of exceedingly fine workmanship and exquisite finish. The manufacturers claim certain great improvements, which add much to the perfection and efficiency of the instruments. Your committee were much pleased with this exhibition, which added much to the attraction of Manufacturers' Hall, and award a Dip. and Medal.

One Flock renovator, C. P. Barbour, Troy,.....Vol. Trans.

One lady's sewing bird, Spencer & Tucker, Hartford, Conn., very pretty. Thomas' Fruit Cult.

One model water wheel, Samuel Reynolds, Jr. & Co., Jefferson county, N. Y. It is claimed for this wheel that it operates through the combination of two actions, viz: direct and re-action. It is certainly very simple in its construction and yet practical. Not the least of its good qualities is the fact that it is very cheap in price,..... .....Vol. Trans. and $3.

An improvement in the draft of carriages and wagons, attached to a two horse wagon, (King's patent,) Lewis King, Madison, N. Y. It is claimed for this improvement that it will cause two horses to perform the labor of four, in ascending hills, drawing out of holes, &c., &c., with heavy loads. This fact was demonstrated to the satisfaction of your committee. The gearing when not in use is stowed away, so as not to encumber the operation of the wagon, yet in readiness for use at a moment's notice. It can be attached to wagons and sleighs now in use,.....Dip. and $3.

Horse shoes, Daniel Nelson, Deerfield, N. Y.....Vol. Trans.

Twelve Scotch bowls, William D. Durkee, Syracuse; cast iron, nicely polished, and well adapted for cooking purposes,.....Vol. Trans.

One model stave machine, C. B. Hutchinson & Co., Syracuse. A very ingenious machine compressed in small compass, yet performing wonders. Cuts the staves from the block rapidly and finishes for use. Its operation, simple and wonderful, attracted much attention,.....Dip. and $3

One improved mill pick, Joseph Houston, Conway, Mass.....Vol. Trans.

One meat-cutter, Henry M. Holley, Kingston, R I., an excellent article, Vol. Trans.

One millstone dressing machine, J. V Tilton, Skaneateles. One of these small machines performs the labor of many men ; does its work evenly, and can easily be graduated from fine to coarse, and vice versa.....Dip. and $3

This closes the enumeration of entries in this department. There were several other entries made, but the articles did not arrive, or else could not be found by your committee. Our labors have been arduous. We have endeavored to deal frankly and fairly by all, and hope this report will be accepted in the spirit that has actuated us. Your committee ought not to close their report without more particular attention to the "*working model of steam engine,*" exhibited by Mr. Benjamin H. Wright, of Rome, N. Y. The descriptive title affixed to it by the inventor, is the "Revolving Piston Engine," to distinguish it from the ordinary rectilinear or reciprocating engine. The object aimed at in this invention invests the latter with no limited degree of interest. Numerous indeed have been the attempts to substitute a direct action in lieu of the crank. Nearly one hundred patents have been granted in the United States and probably thirty or forty in Great Britain, for Rotary Engines or combinations seeking this result, whilst the name is legion of those which have fallen so far short of success as to restrain their authors from attempting to introduce them to the mechanical world Watt himself essayed in this line for some time, and after having obtained a patent, in the year 1782, abandoned his offspring. The subsequent efforts of others have been equally ephemeral. So repeatedly have been these failures that very many practical mechanics have come to regard the accomplishment of the direct action engine as impracticable, and have even become so interested in their "first love" as to deny any advantage in the latter. This is not surprising, since the success or competency of one in this branch perhaps more than any other depends upon the most intimate acquaintance with all the details of construction. Hence an aversion to pursue other than

the old beaten track and a suspension of opinion in most cases till time and experience shall have developed the full merits of any new invention. That this is a desideratum, "facts" which "are stubborn things" can be adduced to prove. The very irregular propelling power on board of steamboats particularly, and on railroad trains, is perceptible enough to any man of common observation, and if the same irregularity is carried into the manufacturers' department we may easily imagine it the cause of frequent breaking of threads and other inconveniences. The correction of these evils is by no means all the advantage to be obtained by a uniform motion. The question will naturally occur to the readers of this report whether this invention will not follow in the track of all its predecessors? It may be so, but we think that we see in it features calculated to insure its success. The inventor has explained to our full satisfaction and comprehension the features which distinguish this from those which have preceded it and the lack of which has evidently been, to say the least, a partial want of success in them. If this one should result as we trust it may, then no award consistent with the means of the society would be too large to mark their appreciation of so great an advance in mechanical science, for it should be remembered that an undue appreciation is not only an injustice done to merit, but manifests a want of perception on the part of the society. No pecuniary reward that your committee control would at all manifest their sense of the value of this effort, as an effort merely, and we as the only resource left us, recommend that both a diploma and medal shall be awarded to the exhibitor of the "*Revolving Piston Engine.*" The inventor has it in view to test the applicability of this engine as a propelling power on our enlarged canal, to which the new engine seems well adapted by its compactness and other great advantages. If successful, it would afford an opportunity to the society to mark their full appreciation of this contribution to science.

The following remarks on the Hot-air Furnace of Giles & Walker, Rome, which had been examined by another committee, as well as this, and which received the award of a silver Medal are given showing undoubtedly that it is a most valuable furnace.

This furnace for heating dwellings, stores, churches &c , is exclusively for wood, working upon the air-tight principle, by these means economizing fuel, and at the same time retaining the heat upon one hundred feet of heating surface. The capacity and arrangement of the heaters induce a powerful circulation, heating a large volume of air which is perfectly ventilated, giving a current of pure and even-tempered air.

All of which is respectfully submitted.

CHARLES P. GROSVENOR, Ch'n.
CHAUNCEY JOHNSON.

The following articles in this division were examined by a special committee, they not being on the ground, or if so, not seen by the regular committee.

Belt clasp, Albert Smith, Rochester,.....Trans.
Dick's Boiler plate punch, J. E. Holmes, Holyoke, Mass.,.....Silver Medal.
Dick's Saw Gummer, J. E. Holmes, Holyoke, Mass.,.....Silver Medal.

These were very valuable and important articles, and deserve for their utility and importance, the awards given them. A. F. CHATFIELD.

ARTICLES OF WOOD, &c.—No. 64.

Palmer & Simmons, Clayville, Oneida county, one sulky and whipple tree hook, Small Silver Medal.
W. B. Hatch, Utica, invalid bed stead,.....Vol. Trans.
Penfield & Blackwell, Utica, two pleasure carriages....., Small Silver Medal.
D. A. Lyon, Utica, four pleasure carriages, twelve horse sleigh, Silver Medal.
Harvey Kirkland, Utica, refrigerator,.....Vol. Trans.
E. B. Brintom, Schenectady, one buggy wagon,.....Small Silver Medal.
James H. Reed, Utica, four bunches spruce shingles,.....Vol. Trans.
Watson, Ellis & Co., Whitestown, eight pails, four wash tubs, two keelers, two churns,.....Vol. Trans.
Thomas C. Robinson, Utica, one child's carriage,.....Vol. Trans.
W. H. Scranton, Utica, two nest knot bowls,.....Small Silver Medal.
Richard B. Gee, Utica, one patent portfolio stand,.....Vol. Trans.
John J. Vedder, Schenectady, one rat trap,.....Vol. Trans.
James Cox, Utica, an Elizabethean loo table,...., ...Small Silver Medal.
J. W. & L. L. Lawrence, Dublin, Indiana, patent paring machine, Vol Trans.
J. D. Ingersoll, Ilion, Herkimer, melodeons,.....Vol. Trans.
Daniel Fay, Chester, Mass,, one apple parer,.....Vol. Trans.
A. S. Webster, Mt. Pelier, Vt., one invalid bedstead,.....Vol. Trans.
J. S. Eastman, Deerfield, one patent bee hive, with bees,.....Vol. Trans.
E. H. Tayler, Fayetteville, one patent cherry table,.....Vol. Trans.

J. Henderson, Palmyra, one horse shoe swedge and model shoe,..S. S. Medal.
F. M. Mattice, Buffalo, triangular rail fence,.....Dip. and Vol. Trans.
E. S. Barnum & Son, Utica, six corn baskets,.....Dip. and Vol. Trans.
J. S. Eastman & Son, Deerfield, six axe helves and one Colton's patent bee hive,..... Vol. Trans.
E. W. Phelps, Newark, Ohio, one Ohio premium bee hive,.....Vol. Trans.
Horace Lettington, Norwich, one single carriage,.....Small Silver Medal.
Derwin Hallenbeck, Whitestown, two light buggies, ...Small Silver Medal.
Moses Miller, Washington, one business and pleasure cutter,.....Dip.
The committee take pleasure in highly recommending Otis's patent morticing boring and hub morticing machine, by power, exhibited by O. Cottle, of Syracuse, and award a.....Silver Medal

This machine is the invention of Benjamin H. Otis, and for cheapness, durability and usefulness, can scarcely be too highly commended. So great is its saving of labor, and so excellent its execution, that to mechanics as well as to farmers, and all who make or buy utensils made of wood, its general adoption is of the utmost importance.

Lown & Carpenter, Troy, open front, buggy wagon and one cutter, S. S. Med.
C. H. Cook, Coeymans, adjustable quilting frames,.....Norton's Essay,
Bradley & Noble, Rushford, Allegany county, pair Hubbard's patent self-adjusting carriage gearing, containing a new principle of spring,.....Dip.
Thomas J. H. Reading, Kirkland, one improved bedstead,.....Dip.
A. Keiser, Utica, clock stand,.....Trans.

DISCRETIONARY, No. 65.

Johnson & Goodell, N. Y., American porcelain.....Silver Medal
Elisha Waters, Troy, case of atmospheric breast cups and cupping instruments. S. S. Medal and Vol. Trans.
Charles P. Davis, Utica, stained glass windows.....Dip.
Henry Basto, New Hartford, Oneida county, samples cotton rope.....Dip.
P. D. May, Utica, penmanship and card writing.....Dip. and $5.
Owens & Newland, Utica, marble monument,.....Dip
Charles Cable & Son, Poughkeepsie, mineral water, superior, Small Silver Medal.
J. M. Stocking, Utica, case hats and caps,.....Vol. Trans.
F. W. Buckingham, Remsen, Oneida county, twelve sides finished kip leather, Vol. Trans
A. Osborn, Watervliet, Albany county, windmill,.....Vol. Trans.
H. T. Sheldon, Buffalo, oil water proof blacking,.....Vol. Trans.
C. F. Crossman, Rochester, rolls mineral cloth belting.....Vol. Trans.
Peck & Bangs, Clinton, Oneida county, calf skin,.....Vol. Trans.
E. W. Fitch, Litchfield, N. Y., mineral paint.....Vol. Trans.
Curtis Coe, Springport, N. Y., fruit separator,.....Vol, Trans.

Peck & Bangs, Clinton, Oneida county, 4 sides top leather.....Dip.
Isaac L. Bronson, Amsterdam, N. Y., lot fancy wire broom brushes,....Trans.
G. H. Lamberton, Waterville, Oneida county, 2 plants of tobacco..Vol. Trans.
J. T. Johnson, New-York, chemical erasive soap and patent starch polish, Dip.
McDougall & Fenton, case boots and shoes,.....1st Prem. $5 and Dip.
Samuel Gardner; New-York, magnetic separator gold washer,.....Dip.
Palmer & Co., Springfield, Mass., improved artificial leg,.....Dip.
White & Metcalf, Utica, case dentistry,.....Small Silver Med.
Blakesly & Swartwout, Utica, case dentistry,.....S. S. Med.
Ambler & Avery, New-York, case dentistry,.....S. S. Med,
Wm. O. Laird, Floyd, case dentistry,.....S. S. Med.
Vernon Potter, Utica, sowing machine,.....Vol. Trans.
Allen B. Wilson, Conn., sewing machine, called "patent sewing lathe,"...Dip.

Report of Special Committee.

Benjamin Shaw, 73 Canal street, N. Y., ladies' shoes and boots,.....Dip.
Lewis Pardee, West Edmeston, N. Y., for a toy wagon, built by a boy with one hand,..... $2.
Bradford Rowe, Albany, leather stretcher,..... .....Dip.
Clark & Gillman, Rochester, a case of felt bodies for moleskin hats, which the committee consider equal at least to any made in the city of New-York or its vicinity,.....Dip.

AMERICAN LINEN COMPANY.

To the Executive Board of the N. Y. S. Ag. Soc.

GENTLEMEN—Among the useful and essential articles of domestic consumption exhibited at the State fair held at Utica in 1852, was to be seen a case containing the products of flax manufactured by the Linen Thread Company established at Mechanicsville, in the county of Saratoga.

This association was first established at Lansingburgh, in 1848, where it languished. In 1851 it was commenced, with new machinery from England, made to order, at the Cohoes, based upon a capital of $30,000. At this place the vast importance of its fabric became more fully developed, and having attracted the attention of capitalists, it reared its head at Mechanicsville, supported on the basis of $70,000. It now gives employment to upwards of eighty hands, throwing off daily an average of three hundred pounds of thread.

At first sight it may seem surprising that flax should be *imported* for manufacture, remembering the vast exports of seed from this country to supply European markets. It appears, upon examination that a great change has been effected in ten years. To go no farther back than five or six years, it is known by our general census that the cultivation of flax has dwindled away from a product of about three millions of pounds in this State, to nine hundred and forty thousand pounds. Hence, doubtless, the necessity for its present import.

The establishment of this factory will probably lead the way to the erection of others, and the invention of economic systems of fabrication, whereby the cohesion of the fibre, the separation of the woody particles, and other preparations for spinning, as well as manufacture into linen.

Such establishments as the American Linen Thread Company, when carefully and wisely conducted soon become the parents of automatic systems, economising labor, expediting the products and eventually commanding success, in competition with the skill and ingenuity of other nations.

Upon a close examination of the various specimens of thread presented by this company, it was evident that skill directed their works. The extension and twisting of the filaments were performed with a uniformity surprising to an unpracticed eye. There seemed to be a parallelism of fibre for strength, held together by a firm twist and possibly cemented together by the natural gluten of the plant.

The samples of white thread showed a fine polished surface of silvery hue, very attractive—the bleached white was no less beautiful. The colored samples exhibit about two hundred shades, many of them of rich tints, though a few were dull—the colored threads were also highly finished. An economic feature in this association is, the consumption of the tow for useful purposes.

Judging the whole products of the American Linen Thread Company by the samples presented for examination, they are entitled to strong recommendation and encouragement.

It is recommended that a Diploma and Silver Medal be awarded to the American Linen Thread Company, for the exhibition of their manufactures at the Fair of 1852.

J. DELAFIELD.

REPORT

OF THE

Committee on Trial of Implements at Geneva,

JULY, 1852.

To the Executive Committee of the
New-York State Agricultural Society:

GENTLEMEN—When we received your invitation to attend a trial of implements and machinery, to ascertain by actual and thorough trial, their uses and merits, the impression was generally entertained that comparative merits would occupy the attention of the judges and satisfy the desire of the Society.

When, however, the judges assembled in Geneva on the 20th day of July, one only being absent,* it became at once evident that the scrutiny would not be confined to a comparison of results; a demand seemed to exist and was unanimously admitted, that the examination should be conducted as far as practicable with a design to prove that the more efficient *artificial*, as well as natural agents which ingenuity and skill can present to the farmer, the greater will be the amount of labor consumed in cultivation; and in proportion to the skill and industry employed in the adaptation and use of artificial agents, so will be the quantity of products, or commodities for interchange among men. It was admitted also that the substitution of well constructed machinery for economizing human labor, must ameliorate the condition of the people, and increase every comfort and enjoyment.

* Mr. Kirtland of Rensselaer co, was unavoidably absent.

With these views, your committee entered upon their duties, and arranged a system for determining the mechanical principles combined in the machines presented for trial, in order to understand more clearly, and better to exhibit to our farming people the power possessed by these machines to overcome or divide resistances with economy of time and labor, in the accomplishment of the work of a farm.

This system embraced the determination of the power applied, the quantity of force required for giving motion as well to the machine alone, as also to effect perfect work when in full action, the speed required or used; the force or power consumed to perform a specific amount of work; the quality of the work accomplished; the condition of the surface acted on; the construction and liability to wear, and other details which are presented under the various divisions of this report.

This system seemed important and interesting, not only for the advantage of agriculturists, but also for the mechanics of our country. Your committee indulge the belief that this trial of machines and implements will present to the farmer a reliable authority for a due appreciation of such objects when presented for his use. It must be conceded that great improvement has been observed within the last five years in the construction of plows and a few other farm implements, and much ingenuity has been displayed in other and more complex machinery for the farm, yet it is equally true, there is an absence of a sufficient knowledge of the essential principles of construction and application of agricultural implements.

It is no discredit to our artizans or farmers to say that with all the knowledge we have attained, our requirements are very far from being met or satisfied, and that the rudiments of agricultural machinery are rarely sufficiently understood by either farmers or mechanics. The many thousand persons assembled at the Geneva trials, afford a conclusive evidence that this first effort of the State Society to make apparent the value, or the imperfections of implements and machinery, to the eye of all interested in their uses and application, will cause greater attention to mechanical principles, lessening the powers of draft, and

of resistance; relieving us also from an excessive demand upon the physical energies.

THE TRIAL GROUNDS.

The grounds selected for the trials, were favorably situated about one mile from the beautiful village of Geneva, on the estate of Mr. Horace L. Bennett. The meadow appropriated to the several mowing machines, presented a gently sloping surface, the most elevated portion having a gravelly surface soil with many loose cobble stones; the lower part of the field exhibited a loose vegetable black mold, rough and uneven, as if poached by feeding herds.

The grass was thin and wiry, consisting of red top, fiorin,* and timothy, varying from eighteen inches to two feet in height; aquatic grasses occupied much of the lower ground.

This field was accurately surveyed and laid out in parallelograms, each containing an area of two acres; each area was marked by stakes numbered consecutively from 1 to 10.

A meadow on the farm of Mr. Sherman was also selected as having a growth of heavy grass, on which to test the power of the mowing machines; this field was covered chiefly with timothy grass, with a thick bottom herbage springing from a vegetable mold; the lower portion of the meadow was naturally wet, sending up a growth of water grasses from a bog surface; the sedges were about four feet long, the red top rose to three feet, the timothy measured three feet six inches in length, and the water meadow grass was as long as the timothy. Much of the grass on this field was lodged and tangled. Both meadows would have severely tasked the efforts of the most experienced mowers, and the temper of the most appoved scythe; they afforded therefore a good test for the power and capacity of machines for mowing.

The wheat field, comprising about thirty acres, presented an undulating surface, with a water course or deep furrow through portions of it; a few trees and stumps, with here and there a boulder offered occasional impediments, and the whole field pre-

* Sometimes called *foul meadow*.

sented as many and as varied obstacles to farm machinery and labor, as will occur probably on any property where machinery can be profitably employed. The wheat crop on the ground was of the Mediterranean and Soules varieties, injured in some degree by the wheat fly; small portions of the field were lodged; and with the exception of low moist places the grain was in proper condition for harvesting. The soil of this field is a clay loam, a specimen of which is deposited in the Society's museum for reference when desired.

The barley field contained about 30 acres, was more uneven as to its surface; deep irregular water courses traversed its length; the water standing in some portions; many boulders and stumps were in the track of the machines; the grain was much lodged and tangled; the straw soft and tough. The soil of this field is a clay loam, though more sandy in its proportions than the wheat field; a specimen of this soil is also deposited in the Society's museum. The committee believe that a combination of difficulties equal to the many presented on this field to the machines on trial, can rarely occur.

Both the wheat field and barley field were accurately surveyed and laid out in lots containing areas of two acres each, marked by numbered stakes in consecutive order from 1 to 12. A track for the teams to enter was opened by cradles between each lot.

The several areas of the wheat and of the barley field were appropriated to the exhibitors by lot; the numbers drawn by them respectively, designating the number of the lot on which to operate; the numbers prefixed to the exhibitors names in the several tables in this report indicate the position of each.

An adjacent field, plowed during the second day of the trial, afforded ample space for the trial of Grain Drills and Cultivators; the long continued dry weather during the month of July acting upon a clay soil, caused the furrows to be rough and baked in large masses, presenting a surface not to be easily pulverised; consequently tasking the merits or powers of each Cultivator to reduce the soil to a proper tilth, and every Grain Drill to distribute seed at equal distances and at uniform depths.

The upper, or highest level ground of the barley field was raked, bound and housed, or removed, affording a favorable stubble ground for a second trial of Cultivators, the action of which having reduced the soil to a condition suitable for planting, it was appropriated to the trial of corn and seed planters. These machines were worked on areas, marked, numbered and planted by each machine, with the intent to note, especially, the results, after vegetation had advanced the plants a few inches above the surface.

To aid the efforts of the State Society, and to promote the farming interests, the inhabitants of Geneva caused a large area of a meadow adjoining the wheat and barley fields to be covered with the spacious canopys prepared by Mr. E. C. Williams, of Rochester.

One of these immense tents afforded space for the horse powers where motion was applied on the principle of the endless chain; the various powers were arranged on a line with the walls of the tent in a manner to permit the application of power to the several machines. Another tent gave protection to machines and implements until they were called to the field for trial.

A tent was also appropriated to the exhibition of implements and machinery not subject to trial; other tents were erected for the comfort and convenience of attending visitors, and for the officers and judges of the State Society, with abundant refreshments; every wish was liberally anticipated and every needful appliance prepared for the objects to be accomplished.*

With these arrangements and preparations, the judges entered upon the examination and trial of the implements and machines submitted to them, and according to the following list of entries presented by Mr. Secretary Johnson:

*The inhabitants of Geneva were represented by a committee consisting of

JOHN C. PROUTY, *Chairman*,
JOHN H. TILLMAN, *Treasurer*,
A. T. CHEW, *Secretary*,
Wm. Creighton Lee,
John L. Bennett,
Wm. Orton,
S. C. Cleaveland,
E. Jenkins Burrall,
Robert Lay,
S. H. Parker,
Asa Gardner,
Jos. S. Lewis.

LIST OF ENTRIES:

Reaping Machines.

J. H. Manny, Wadham's Grove, Ill; Reaping Machine, "Manny's Patent Adjustable."

Byron Densmore, Brockport, N. Y., Reaping Machine.

C. H. Mc Cormick, Illinois, Reaping and Mowing Machine.

A. C. Powell, Syracuse, Rugg's Reaping and Mowing Machine.

E. Danford & Co., Geneva, Kane Co., Ill., Danford's Doubled Sickled Reaping and Mowing Machine; also entered by J. Rapalje & Co., Rochester.

A. J. Cook, Enon, Ohio, Reaping and Mowing Machine.

T. D. Burrall, Geneva, N. Y., Convertible Reaper and Grass Cutter.

Seymour & Morgan, Brockport, N. Y., New-York Reaper.

Aaron Palmer, Brockport, N.Y., Palmer's Self-Raking Reaper.

John S. Wright, Chicago, Ill., Atkins' Automaton Raker.

T. R. Hussey & Co., Auburn, Hussey's Reaper.

O. Hussey, Baltimore, Hussey's Reaper and Mower.

Mowing Machines.

Howard & Co., Buffalo, N. Y., Ketchum's Mowing Machine.

T. Rush Spencer, Geneva, Bronson Murray's Mowing Machine.

C. H. McCormick, Chicago, Ill., Mowing Machine.

A. C. Powell, Syracuse, Rugg's Mowing Machine.

T. D. Burrall, Geneva, Grass Cutter.

J. H. Manny, Wadham's Grove, Ill., Mowing Machine.

O. Hussey, Baltimore, Md., Mowing Machine.

Grain Drills.

P. Seymour, East Bloomfield, 3 Grain Drills.

Huffman & Bickford, Macedon, N. Y., 1 Grain Drill.

Rapalje & Co., Rochester. N. Y., Wheat Drill.

Foster, Jessup & Co., Palmyra, N. Y., 2 Grain Drills.

S. M. Drake, Skaneateles, Gatling's Grain Drill.

S. R. Tracy, Newark, 1 Drill.

Horse Power—Sweep or Lever.

J. A. Pitts, Buffalo, N. Y., Pitt's Lever Power.
Eddy, Dyer & Co., Union Village, N. Y., Taplin's Circular Horse Power.
Daniel Woodbury, Palmyra, N. Y., Lever Horse power.
B. H. Wakely, McLean, N. Y., Lever Horse Power.
Hall & Tompson, Rochester, do do

Horse Power.—Endless Chain or Railroad.

Emery & Co.. Albany, Railroad Power.
George Westinghouse, Central Bridge, N. Y., Horse Power.
Ezra W. Badger, Fly Creek, N. Y., one and two Horse Power.
J. A. Pitts, Buffalo, N. Y., Horse Power.
J. Rapalje & Co., Rochester, do
Geo. F. Jerome, Hempsted, do

Iron Horse Power.

John A. Pitts, Buffalo, Iron Horse Power.

Thrashers.

Emery & Co.; Albany, Thrasher and Separator.
Eddy & Co., Union Village, Thrasher.
J. A. Pitts, Buffalo, Thrasher and Separator.
Daniel Woodbury, Thrasher and Separator.
George Westinghouse, Central Bridge, overshot Thrasher and Separator.
Ezra W. Badger, Fly Creek, Thrasher and Separator.
J. Rapalje &Co., Rochester, Thrasher and Separator.
Harris Scovill, Tompkins co., Thrasher.

Steam Engine for Farm Purposes, &c.

Hoard & Bradford, Watertown, N. Y., Portable Steam Engine.

Seed Planter, for Horse or hand Power.

Emery & Co., Albany, Seed Planter.
C. C. Van Every, Victor, Corn and Bean Planter.
Pierrepont Seymour, East Bloomfield, two Seed Planters.
Rapalje & Co , Rochester, two Planters.
Foster, Jessup & Co., Palmyra, Corn Planter.
John Woodward, New Hampshire, Corn Planter and Manure Depositor.

Cultivator for General Purposes.

Pierrepoint Seymour, East Bloomfield, enters Horse Cultivator.
Rapalje & Co., Rochester, 4 Cultivators.
L. L. Whitbeck, Arcadia, 1 do
S. R. Tracy, Newark, 1 do
Killam & Valleau, Rochester, 1 do
Bradleys & Romans, do 1 do
J. W. Hamilton, do 1 do
H. H. Howe, Canandaigua, 1 do

Broad Cast Sowers.

Pierrepont Seymour, East Bloomfield, two Broad Cast Sowing Machines.

Early on the morning of Tuesday, the 20th of July, the marshal (Wm. Johnson, Esq., of Ontario,) announced that the Mowing Machines were on the ground, ready for trial. Numbers corresponding with the lots surveyed and marked on the meadow were drawn by the exhibitors, and each machine was directed to its station according to the number drawn.

A view of the field at this time, with the array of Mowing Machines of varied construction, claiming to save labor, and accomplish better work than had hitherto been effected by the farmer, presented a scene of interest, not only to the agriculturist and mechanic, but also to every man whoes views extended to the advancement of his State and of the nation. It could not escape the observing mind, that, in this State, producing annually about *four millions* of tons of hay, there was on that field, machines having the capacity to add, by their use, an annual income to the farming population of more than a million of dollars; and extending these views beyond the limits of our State, applying them to the Union, whose surface gives annually more than *thirteen millions* of tons of hay, how important becomes the investigation of this class of machines, thereby exhibiting to the agriculturist their powers, uses, and advantages.*

*Estimating the hay crop of the United States, as per the census of 1850 at 13,505,384 tons, the average cost of cutting and making at $1 per ton, and the saving, by use of Mowing Machines, at one-forth of the present cost, the annual gain would be $3,401,346.

The duty of the judges might have been confined strictly and fairly to a report of the successful machines, yet as agricultural machinery may be esteemed as being in its youth, immature, as ingenuity and skill stamped their features on most of the machines presented, it seems alike due to the mechanic and farmer, to present a notice of the *unsuccessful* as well as of the more favored machines.

The annexed table exhibits, in a condensed form, the distinctive characteristics of the several Mowing Machines, and embodies the essential facts needful for a generally correct estimate of their respective merits:

STATEMENT *of the trial of mowing machines, at Geneva, July*, 1852.

PATENTEES.	EXHIBTOR, OR AGENT.	Price.	Weight.	POWER REQUIR'D		SPEED.					DRAFT.		KNIVES.								QUALITY OF THE WORK.			
				Men.	Horses.	Diameter of driving wheel.	Circum'nce of driving wheel	Revolutions of the driving wheel per minute.	Advance of the machine per minute.	Time consumed in cutting two acres.	Absolute draft.	Corrected draft, giving lbs. per inch of the width cut.	Width at the base.	Length fm base to the apex.	Edge of the knives.	Height of the cutting bar & knives from the ground.	Length of the vibration.	No. of vibrations to one revolution of the driv'g wheel.	Width of the swath.	Diameter of the reel.	Quality of the work, assuming 50 as perfect, and 25 as perfect w'k of the scythe.	Condition of the grass when cut.	Av'ge length of the stubble.	
		Dol.	Lbs.			In.	In.		Ft.	h.m.	Lbs.	Lbs.	In	In		In.	In		Ft.	Ft.	Av'ge.		In	
No. 1. Rugg's,.....	A. C. Powell, ...	130	900	1	2	48	150 3/8	16	201	2.32	350	4.5	4	1 1/8	Sickle.	2 1/2	4	30	6.6	5.0	17	fair.	5	Clogged frequently
2. J. H. Manny's,..	J. H. Manny, ...	100	800	1	2	30	94 1/4	32	251	....	400	6.1	4 1/8	2	Sickle.	4 3/8	4	30	5.6	4.6	34	good	2 1/8	Clogged twice.
3. Ketchum's,.....	Howard & Co.,...	110	736	1	2	36	113 1/8	20	188	1.26	450	8.0	3	3	Sm'th.	2 1/8	4 1/8	36	4.8	none	33	good	3 1/4	No interruption.
4. C. H. McCormick,	C. H. McCormick,	100	800	1	2	28	88	34	247	0.56	350	4.8	4 3/8	0 5/8	Sickle.	2 1/2	4 3/8	22	6.0	6.0	16 1/2	good	5	Clogged frequently
5. Danford & Co.,...	Rapalje & Co.,*..	....	....	1	2	....	....	....	....	....	....	....	..	..	.....	....	..	....	....	....	15	fair.	..	Clogged frequently
6. T. D. Burrall,...	T. D. Burrall,...	100	750	1	2	38	119 3/8	25	248	....	450	7.9	3	2 1/8	Sm'th.	1 1/2	8	24	....	none	20	good	3 1/2	Clogged frequently
7. B. Murray,.....	Thos. R. Spencer,	100	800	1	2	32	100 3/8	27	226	....	430	7.2	3 1/4	1 1/2	Sickle.	2 1/4	4 1/4	20	....	none	17	good	4 1/2	Clogged frequently

* This machine was not presented until the second day of trial, at a late hour.

It will be perceived, from the data set forth in this table, that the chief competition rested between Manny, No. 2, and Ketchum, No. 3.

The judges did not feel entirely satisfied with the trial thus far, as the grass did not present the resistance to be encountered in average crops. The exhibitors were notified to present their machines on the following morning at 8 o'clock on the farm of Mr. Sherman, when a second trial would be made in heavy grass. At the appointed hour the judges were on the ground, and caused each machine to take its station as it arrived and was adjusted.

The KETCHUM MOWER led off handsomely, opening a double swath.

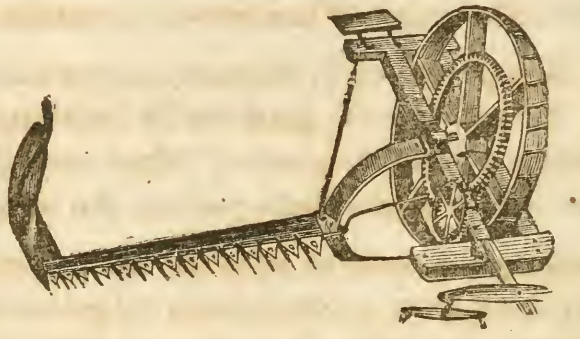
MANNY'S MOWER entered in the same manner and opened a double swath. So well was the grass cut by both machines, that no decided preference could be given to either—and it was manifest that no labor with a scythe could perform the work as well.

Both machines then entered upon the low grounds, encountering high and thick grass, portions being lodged and tangled, lying in all directions; they were directed to cut double swaths through this grass, and then to follow each other laying their swaths side by side. Ketchum's machine performed the task without interruption; Manny's machine was stopped by cutting through a hummock, which lodging on the knives, pressed down the standing grass, preventing a free cutting action; a second interruption occurred when entering the swath, from inattention to clearing the cutting knives. Aside from these casualties the work was well performed.

The quality of the work accomplished by both machines could not fail to satisfy any farmer, and was better done than could be performed by the most expert mower with a scythe.

MANNY'S MACHINE is peculiar in its construction, by a facility of raising or depressing the cutting apparatus while in motion, at

the pleasure of the driver, giving to it the capability of cutting the heads of grasses for seed, and afterwards the straw or stems and leaves for fodder; it runs on wheels; is easily moved from place to place; is strongly braced, and by an ingenious arrangement is capable of being contracted into a small compass for housing when not in use. Another peculiarity common to both Mr. Manny's and Mr. Murray's knives, is a cutting edge at the base, intended to prevent clogging. A reel is used with this machine, which has a tendency to lay the grass in waves, and not of uniform thickness over the surface of the field.



KETCHUM'S MACHINE is remarkable for its compactness and simplicity of construction, also for the perforation of the knives, which, it it is claimed, renders impossible to clog in the cutting operation; the knives cut with a blunt edge at this perforation, necessarily consuming more power to effect the object than if it be a sharp edge. A curved iron elbow connects the knife or cutter bar with the running parts of the machine, bringing the knives close to the ground. It needs perhaps more strength and uniformity in mechanism—it works without a reel, performing its work admirably.

MCCORMICK'S MACHINE cuts with knives of a peculiar form, being broad at the base, short in length and having a *sickle* edge working between spear-shaped teeth or fingers. The construction of this machine is too fragile for useful purposes, the knives yielded after a few swaths were cut, needing to be replaced by another set; these yielded also. The stubble was left long and uneven.

BURRALL'S MACHINE was presented for trial direct from the workshop, and now first subjected to its intended work. It is ingen-

ious in mechanism, presenting a longer vibration of the cutting knives than any other machine; a fly wheel is attached to overcome variable resistances and equalize movements, and certainly the Burrall Machine moved over the ground with less noise and more smoothly than any other subjected to trial.

Without pretending to question the theory, it seems at first sight that a wheel of so small diameter and weight, could not efficiently or profitably collect power sufficient to overcome any sudden resistance to which a mowing machine is usually liable; certainly at this trial it did not prevent very frequent interruptions to its progress. More experience may show the value of this appendage. The ingenuity and excellent workmanship of this machine is worthy of high commendation, and we cannot doubt that under impovements which the present trials will suggest to the proprietor, he will at an early day perfect a Mowing Machine to stand in the foremost rank. In its present condition it choked frequently and needed oft adjustment.

Murray's Machine arrived at the trial grounds from Illinois at the close of the day; it was not properly adjusted for work, and no one conversant with its use was present to work it. Under these circumstances the work was badly done. There are however in this machine points of ingenuity and excellence of arrangement which will probably place it when perfected among the favored implements of the agriculturist.

Rugg's Patent Mower retains in a great degree the form of the earliest Reaping Machine as patented by the Rev. P. Bell in England; the horses are attached to the rear of the machine propelling it, while the driver guides it by a steering wheel, he can also elevate or depress the cutting knives at his pleasure. The advantages claimed for this patent were not apparent and the machine soon ceased to operate.

Danford & Co's Machine was not in time for examination and trial on the first day, and when in operation on the morning of the second day, it was frequently impeded by clogging. The peculiar feature of this machine is the reciprocating action of the cutting knives; they are moved by eccentrics, causing the knives

to pass each other in close contact on the same plane, the action of the blade therefore is like that of shears. This position of the knife cannot probably maintain a long continued perfect action, for as soon as the knives from any cause lose their sharp edge, the tougher grasses will be drawn between the plates, and by clogging arrest the progress of the machine.

The excellence discernable in the best Mowing Machines now exhibited, leaves no doubt as to their utility. It is equally clear that the work performed is far better than can be done by manual labor with a scythe.

The farmer will, however, need the occasional use of the scythe; for neatnes and thorough husbandry will claim the scythe to trim fence corners, to remove baulks occasioned by careless driving, as well as herbage which may escape the machine when passing stumps or rocks.

The economy derived from their use may be understood from the following computation:

An able man can cut with a scythe an area of one acre and a quarter each day, on a meadow covered with grass equal to two tons per acre; of heavy clover he will cut not to exceed one acre per day; a few men can accomplish more than above stated, but on an average these quantities are found to be a full day's work.

The rate of wages varies in different places and counties, yet a fair average rate of compensation in central New-York for men engaged in the hay harvest is seventy-five cents per day, or eighty cents per acre by the job, with their board and lodging.

Assuming the cost of cutting and making hay at one dollar per day for each man employed, we may approximate closely to the advantages of mowing machines. Thus

One acre of meadow grass yielding two tons will cost for cutting and making the hay.....$ 2 00
A field of ten acres will therefore cost..... 20 00

A mowing machine will cut an acre per hour, worked by one man with two horses; a field of ten acres may be conveniently

cut in one day by the machine; three additional laborers will be sufficient and ample for turning, raking and cocking the ten acres.

Then the labor of the 4 men is equal to.....	$4 00
1 team, say,.....	1 50
Int. on cost of the machine, wear and tear, say 15 per cent per annum, to sink the cost in ten years, $15; this amount divided equally to ten harvest days is equal to a daily charge of*.....	1 50
Cost of cutting and making ten acres of hay, of two tons per acre by a machine,.....	$7 00

The difference in favor of the Mowing Maching is therefore a saving of labor equal in value to *thirteen dollars* per day, and upon every ten acres of grass land, the gain upon each ton is sixty-five cents.

Attention is thus drawn to the economy of Mowing Machines, that all interested may make estimates for themselves based upon wages and compensation directly applicable to their own locality, the above rates being adopted from the customs and pratices of many farmers in the center of the State.

REAPING MACHINES.

A few years have passed since Reaping Machines were successfully introduced into the State of New-York. Since their introduction they have multiplied greatly in the grain-growing districts. Year after year, ingenuity, stimulated by demand, has attempted improvements, and as a measure of the excitement, it may be stated that *fifteen* patents were issued from the government office for Reaping Machines in the year 1850–'51.

These Reaping Machines are not confined as heretofore, to the cutting of wheat, barley and oats: they are constructed for harvesting Indian corn, stripping the ears from the stalks; for cutting or removing the corn stalks; also for harvesting cotton stalks, hemp and grasses.

*No estimate is made of the wear and tear of scythes, snaths, &c.

The astonishment felt and expressed by British cultivators when two American reapers successfully laid the grain of their rich fields in regular gavels, ready for binding, at the rate of 15 to 17 acres per day, is generally known; and it appears by recent papers from England, that during the period while the Geneva trials were in progress, *seventeen* specimens of reapers were on exhibition at a meeting of the Royal Agricultural Society at Lewes; upon which occasion an American Reaper is declared to have demonstrated its superiority over other similar machines.

It appears that British mechanics are adopting and combining the excellencies of various American reapers, producing results which are spoken of as producing a revolution in their harvesting operations.

This combination of American ingenuity obtained the silver medal of the Royal Society at their recent meeting, and it is said that more than one thousand of these machines have been made to order.

If then the farmers of the old world feel so much interest in agricultural machines in use among American farmers, we are at no loss to account for the excitement exhibited by New-York farmers and others visiting the Geneva trials.

Twelve grain Reaping Machines were entered for trial: three of them did not reach Geneva until after the adjournment of the judges.

The following table presents a list of the reapers on the field, in the order of numbers drawn by them respectively, for their stations on the ground.

This table exhibits the action and main features of construction of each machine on the wheat field.

TABULAR STATEMENT

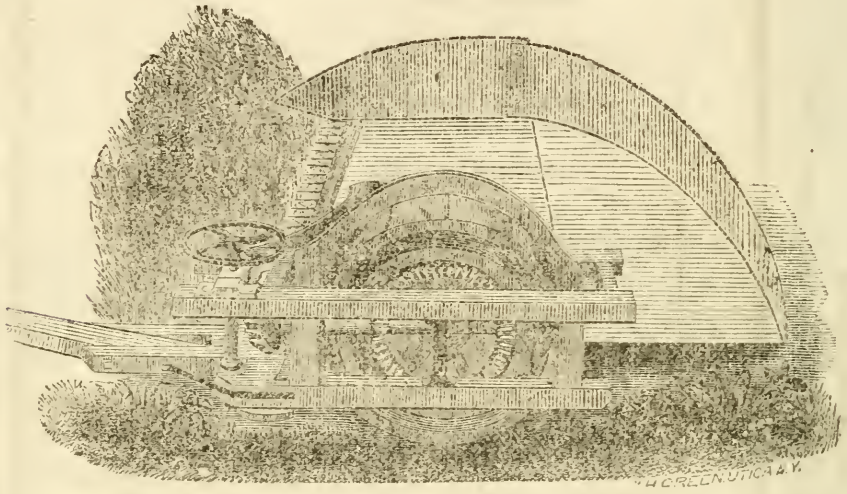
Of the trial of Reaping Machines, at Geneva, July, 1852.

PATENTEE.	EXHIBITOR, OR AGENT.	Price.	Weight.	POWER REQU'ED		SPEED.					DRAFT.		KNIVES.					Width of the swath.	Diameter of the reel.	Mode of delivery.	QUALITY OF THE WORK.		
				Men.	Horses.	Diameter of the driving wheel.	Revolutions of the driving wheel per minute.†	Advance of the machine per minute.†	Time consumed in cutting two acres.	Advance per minute during the whole cutting.	Absolute draft.	Corrected draft, giving lbs. per inch of the cut.	Width at the base.	Length from the base to the apex.	Edge of the knife.	Length of the vibration.	No. of vibrations to one rev. of the driving wheel.				Qual. of the wk, 50 be'g per. 25 the work of a cradle.	Condition of the gavels.	Condition of the stubble.
		Dol.	Lbs.			Ins.		Ft.	h.m.	Ft.	Lbs.	Lbs.	Ins.	Ins.		Ins.		Ft.	Ft.				
No. 1.	C. H. McCormick, .	C. H. McCormick,	130	900	2	2	28	36	264	2.23	101	375	5.21	$4\frac{3}{4}$	$0\frac{5}{8}$	sickle.	$5\frac{1}{3}$	32	6	6	side.	30	good.	good.
2.	T. D. Burrall,.....	T. D. Burrall,...	120	1000	2	2	38	26	258	2.48	103	400	6.66	3	$3\frac{1}{2}$	smooth	8	26	5	none	side or back	33	good.	good.
3.	Atkins, ...	J. S. Wright, ...	150	1246	1	2	48	....	....	....	....	....	....	3	3	smooth	5	30	5	....	side.			
4.	E. Danford, ...	E. Danford & Co.,	120	1000	2	2	30	22	172	....	....	400	6.5	$2\frac{1}{2}$	$2\frac{1}{8}$	smooth	5	32	5.6	5	back.	29	fair.	good.
5.	Seymour & Morgan,	Seymour&Morgan	105	920	2	2	36	20	188	1.35	153	425	5.91	4	$1\frac{1}{4}$	sickle.	4	30	6	6	side.	29	good.	good.
6.	J. H. Manny, ...	J. H. Manny, ..	105	840	2	2	30	23	180	2.34	103	400	6.6	$4\frac{1}{2}$	2	sickle.	4	30	5.6	5	side.	$31\frac{1}{3}$	unev'n	good.
7.	Rugg's patent,....	A. C. Powell,....	125	920	2	2	48	....	....	....	....	....	....	4	$1\frac{1}{8}$	sickle.	4	....	6.6	5	side.	15		
8.	O. Hussey, ...	T. R. Hussey,...	135	925	2	2	42	29	319	2.39	99	450	6.82	4	3	smooth	3	26	5.6	none	back.	31	fair.	good.
9.	B. Densmore,.....	Byron Densmore,.	130	980	1	2	46	19	229	2.08	113	420	5.83	4	$1\frac{1}{8}$	sickle	4	24	6	6	side.	25	bad.	unev'n
10.	A. J. Cook,*																							
11.	A. Palmer,*																							
12.	Obed Hussey,*																							

* These machines did not arrive in time for the trial.
† Stated and required by the exhibitor.

1. McCORMICK'S MACHINE cut the wheat straw with accuracy, and called forth commendation at its first movement: the entire lot was not however cut evenly. In the barley field it did not work to advantage, particularly, in the lodged grain; the gavels were well laid; during the action of the machine the horses were subjected to a heavy side draft.

With various and many good points, this machine has to contend with inferior workmanship and want of firmness.



2. T. D. BURRALL'S MACHINE performed its work in the most admirable manner; the gavels were well laid, though from the manner of delivery at the side a twist was observable: the workmanship and materials were excellent: the circular apron for side delivery—the balance wheel—and an arrangement to elevate the exterior edge of the apron, are valuable features.

3. ATKINS' AUTOMATON MACHINE, entered by Mr. J. S. Wright, attracted much notice, not for the work performed, that was indifferent; but for the ingenuity displayed in the mechanism, whereby an arm was made to rise from the machine, descending with a rapid motion, it seized the cut grain on the platform, carried it to the side of the machine, and laid it in a tolerably well formed gavel, beyond the track of the reaper; this action was repeated in measured intervals proportioned to the advance of the machine, and deposit of grain on the platform.

It is due to Mr. Atkins, the inventor, to state that he is a cripple, and was confined to his bed during the whole period occu-

pied by his men in the construction of this machine; in pain and sickness he conceived the design for a Self-Raking Reaper; his instructions were carried out imperfectly in the selection of materials and distribution of strength; the absence of the master mind permitted errors of adjustment and arrangement, consequently it yielded in various parts during the trial. Yet when in motion, the action of the human arm and hand did not fail to find a surprising imitation in this ingenious machine.

Upon this occasion the inventor was largely indebted to Mr. Wright, for his indefatigable efforts to remedy the many difficulties arising from mal-construction—difficulties which may be easily obviated, because they are due to the builder and not to the inventor. These remarks upon an imperfect machine are due to the inventor and to our agricultural interests, for it seems to contain the germ of one of the most useful implements which mechanical ingenuity can present to the farmer.

4. Danford & Co.'s Machine.—This machine has the peculiar arrangement of the knives decribed under the division of mowing machines; the edge of the knives cut against each other, acting like scissors or shears. It performed the cutting satisfactorily; yet the position of the knives, as now arranged, presents a formidable difficulty in a liability to clog as soon as their keen edge is lost. The motion of the wheel was not duly adjusted, a too rapid motion beat the grain and scattered it along the track; the workmanship of this machine was admirable.

5. Seymour and Morgan's Machine.—The work was well done, the gavels well laid; the draft was light and of rapid speed, but it is liable to the objection of side draft.

6. J. H. Manny's Machine.—This Reaper cut admirably in wheat and barley; the merits of construction were manifest in the barley field, where the driver could raise or depress the knives as the standing or lodged grain might demand; the water courses also were easily passed; these are valuable features.

The delivery is not perfect, owing to an elevation of the apron or platform which rises about eight inches above its lowest plane.

The necessary consequence is, an uneven or disturbed condition of the gavels. (See cut of mower, ante page 105.)

7. RUGG'S MACHINE—Having cut a portion of grain appropriated for the trial, was withdrawn.

8. T. R. HUSSEY'S MACHINE.—A compact well built machine, cuts well except where the grain was thin, in such places it overrode the grain which escaped the knife. The gavels were tolerably laid. The construction of this reaper avoids all side draft; yet the direct draft, as indicated by the Dynamometer, was greater than any other machine.

9. DENSMORE'S MACHINE.—This is an ingenious self-raker, the grain being swept from the platform by fingers, with a motion more rapid as it passes the center of it, throwing the gavel from the side. The driver has the power of regulating this action by his foot gathering more or less grain into a gavel, at his option. This clever machine seems not yet perfected, the stubble is left uneven, and the gavels are not smoothly laid for binding. In this machine may be seen the useful efforts of genius struggling to surmount difficulties, and it seems to present an object where success is within reach.

Numbers 10, 11 and 12 did not arrive in due season for trial. The machine of Mr. Obed Hussey, of Baltimore, reached the depot at Geneva the day after adjournment.

The established principle in the science of mechanics in regard to cutting tools, that an acute angle is the most effective on substances of woody fiber, seems to hold good in the form of a reaper knife; this is apparent upon comparing the angles of the several knives, as for instance the height of Mr. McCormick's knife from its base line to the apex is five-eights of an inch, the base line being $4\frac{3}{4}$ inches; the power required to cut a swath six feet wide, advancing at the rate of 101 feet per minute, was five pounds $\frac{3}{100}$ for every inch in width of the swath. The height of Mr. Burrall's knife above the base is $3\frac{1}{2}$ inches, the base being 3 inches; in this case the power consumed to advance 103 feet in a minute, is six pounds $\frac{6}{100}$, the swath being five feet wide.

The grain grower must not yet expect to be entirely independent of the cradle; for the tracks and avenues must be opened in grain fields for the entrance of reaping machines, as well as to remove occasional balks, or the grain protected from the knife by large stones or tree stumps.

The advantage obtained by the use of Reaping Machines, will appear from the following comparative estimate of manual and machine labor:

Wheat yielding thirty bushels per acre, can be cradled at the rate of two acres per day by an expert cradler, and few men can cradle more that three acres of oats or barley in a day. Rye will require more time than wheat, yet in this estimate it may be classed with wheat.

Farmers may differ in these estimates, but it is believed the number who can cradle the acres named, include the great mass of men; those who can exceed the spaces here adopted are few, and form the exceptions only to a general rule.

The average value of cradling labor is one dollar and a half per day with board and lodging, engaged for the harvest season. Job work costs about one dollar per acre. At this last rate, a field of fifteen acres will cost for cradling only, the sum of *fifteen dollars.*

The expenses of reaping the same area by a machine, may be thus estimated:

A team and driver,.....	$1 75
A man to rake off the grain,.....	1 00
Interest on cost of the machine at a value of $120, and at 10 per cent to cover wear, is $12, one quarter of this sum applied to wheat, the balance to be divided among other crops, gives.....	3 00
	$5 75

Note. In nearly all the Reapers presented for trial, a decided improvement was exhibited in workmanship; there was a finish in many which may be viewed generally as proof of durability; a symmetry of form, and beatiful correspondence of various parts, were observable in the best machines. In others, coarse rough work dimmed and obscured their excellences, and caused defects, where existing mechanical *principles* indicated better results.

The cost of cutting fifteen acres of wheat in one day is $5.75; which exhibits a saving of $9. 25 in favor of the reaping machine on an area of fifteen acres.

It must be evident that to accomplish the cutting of these 15 acres with cradles, in one day, seven men at least must be employed and as many more to bind the grain into sheaves—making a force of 14 or more men. The machine requires two men to control it, and needs 7 or at most 8 men to rake and bind the grain, and shock the whole in the same day, making a further advantage by saving the labor of four men, equal to four dollars. Thus it appears that the Reaping Machine offers a considerable advantage over manual labor, say to the extent of $13.25 on every 15 acres, or 88⅓ cents per acre.

The number of acres appropriated to the culture of wheat in this State during the year 1844-'45, according to the State census, was 1,013,665. The census of the United States for 1850, shows a diminution of the wheat crop in this State; yet in the absence of sufficient official returns, we may reasonably assume the number of acres of wheat as being equal now, to the area cultivated in 1845. If so, it will be seen that the use of Reaping Machines applied to the whole crop, would effect a saving to the State of about $89,540 dollars per annum.

These estimates are presented with the intent to draw the attention of cultivators to the economy of machinery, and to invite every person interested in the inquiry to a more minute investigation for himself.

DRILLS.

The practice of sowing and planting seeds in regular rows or drills, has found so many advocates in the United States, as to encourage mechanical ingenuity in the attempt to improve machines derived from English and Scotch cultivators. Until within a short period, the Drill Machines have been cumbrous, and uncertain in the performance of the work desired; hence there use was for a long time confined to sowing the seeds of vegetables, and small areas of corn. Many successful trials with improved drills led to the construction of a very good machine by

Pennock of Pensylvania, by which wheat was deposited in the earth with regularity and at uniform depth ; it planted corn also when desired at equal distances ; the use of this machine gave an impetus to drill husbandry, inducing the belief of utility and economy.

The advantages claimed for these machines, are :

1. Regularity in delivery of the seed.

2. It is deposited at the proper depth.

3. Facility of destroying weeds during the growth of the plant.

4. No loss of nutriment by feeding weeds.

5. Free admission of sun and air.

6. Economy of seed.

7. Less loss from winter-killed grain.

These and other advantages are strongly claimed, probably upon insufficient proof for adoption in all the States of the Union. Yet it cannot be reasonably doubted that in the soil of the U. S., covering an area of one hundred and eighty-four millions of acres of improved fields, large tracts can be economically seeded by well constructed drills, especially in the corn growing regions, and wherever the cost of labor will permit the careful farmer to eradicate weeds from his wheat fields.

Recent improvements in this department of agricultural mechanics, have brought into use several machines, simple in construction, more perfect in their performance, and less expensive in cost than the complex drills of other days. Such is the character of the Drill Machines presented for trial to your committee, to whom it seems evident that the simplicity of construction now achieved has reduced the application of physical effort and the liability to become deranged or worn ; this improvement, though last named, is not inferior in importance to many others, as it too often has tested severely the patience of the farmer, when the aid of the mechanic is needed by repeated demands during the planting of a crop.

The following table contains such facts as could be derived during the investigation and trial. The work performed by the

various drills was upon ground very imperfectly plowed, and upon which neither harrows or cultivators had much effect; consequently the drills were in action upon a soil in which no farmer would permit grain to be deposited.

The field was visited for examination on the 13th of August, being twenty days after the trial of the drills, when, in no instance could a perfect drill or row of grain be discovered; in fact, two thirds or more of all the seed drilled by each machine had perished. The failure in this respect is not attributable to the drill machines, but to the imperfectly tilled ground, and a continued drought from the day of seeding until the 20th of August.

STATEMENT

Of the trial of Drills, at Geneva, July, 1852.

	PATENTEE.	EXHIBITOR.	Price.	Weight.	Rows of tubes.	Number of Drills.	Distance apart.	Draft in pounds.	Depth of the seeds deposited.	POWER.		Delivery.	
										Men.	Horses.		
							Inches	Lbs.	Ins.				
No. 1.	Shipton,.....	Rapalje & Co.,.....	$70	.....	1	7	9	305	2	1	2	imperfect.	
2.	Foster, Jessup & Co.,..	Foster, Jessup & Co ,.....	75	.....	1 or 2	9	7	335	2 to 3	1	2	imperfect.	The tubes may work in single or double rank.
3.	Bickford & Co., ...	Bickford & Co., ...	.....	.....	1 or 2	9	8	400	2to 5	1	2	good.	The tubes may work in single or double rank.
4.	P. Seymour, ...	P. Seymour, No. 1., ...	95	.....	1	9	8	310	1 to 3	1	2	steady.*	The tubes may work in single or double rank, and change from one to the other at the pleasure of the operator.
4.	P. Seymour, ...	P. Seymour, No. 2., ...	80	.....	2	9	8	310	1 to 3	1	2	good.	
5.	Ides,.....	S. R. Tracey,.....	75	.....	2	9	7½	300	1 to 3	1	2	good.	
6.	Gatling,.....	S. M. Drake, ...	65	.....	2	6	9	280	2	1	2	good.	Screw auger delivery.

*Has a special box for sowing grass seed broad cast in front of teeth when drilling ; when *manure* is to be sown, the main box is used.

SEED PLANTERS.

Planting Machines are closely allied to drills; the former being intended to deposit and establish in the soil various seeds at certain distances from each other, the latter intended chiefly for small grains, placed in the earth in close contiguity, and therefore the action may more properly be called sowing.

Many of the Grain Drills are convertible into Planters, and used as such; and the Planters now under consideration are constructed for the deposit of small seeds also, though intended or used for the seed of esculent vegetables only.

Six competitors appeared in this class of machines, viz: Emery & Co., of Albany; C. C. Van Every, of Victor, Ontario co.; P. Seymour, of East Bloomfield, Ontario co.; Rapalje & Co., of Rochester; Foster, Jessup & Co., Palmyra, Wayne co.; and John Woodward, of New Hampshire.

The Planter presented by EMERY & Co., has been used in this State during several years. Many acres of corn have been dropped in rows by it, each grain being placed from four to eight or ten inches apart; when horse power is applied, this implement will plant seven or eight acres per day, the rows being usually three feet apart or more, as the proprietor may desire. All other seeds are deposited by this Planter, and when planted on small areas, hand labor only is necessary. The cost of this machine is $14 to $16. The mechanical construction might be improved, the frame and castings are generally too light for farm work.

The Planter offered by C. C. VAN EVERY, of Victor, plants two rows of any grain at the same time, the rows being three and a half feet asunder. The peculiar claim of this machine is, the capability of depositing seed in each row at any required distance apart, from $1\frac{1}{2}$ inches to $3\frac{1}{2}$ feet; the widest distance making exact squares. There exists a simplicity of contrivance in this implement which promises well, inducing a belief that with more attention to workmanship, the inventor will present a useful labor saving machine to the farmer. The cost is stated to be thirty dollars; it is worked by one horse and one man to guide it.

Pierpont Seymour, of East Bloomfield, entered a machine as a seed Planter, which performs good work; yet as this machine acts as a Drill, it has been noticed in that division.

Rapalje & Co., of Rochester, presented two Planters, one of which was Emery & Co's., or identical with a Planter offered by Emery & Co., some few years ago, for which he obtained a premium, and similar to the same machine offered by Emery & Co., for trial. A small Planter, fit only for garden purposes, was also exhibited by Rapalje & Co.; among horticulturists it would probably be esteemed, but its capacity is not adequate to a farmer's wants.

A Planter, patented by Dickey, of Pennsylvania, was presented by Foster, Jessup & Co., of Palmyra, and so constructed as to drop three grains of corn at the distance of every eighteen inches. This instrument did not fulfil the claims made on its behalf; the cost is $20.

Woodward's Planter was introduced and excited much hope as appearing to combine almost every qualification for a useful planting implement. It was tried with corn on the surface and found to drop four grains with accuracy at equal distances of three feet.

Gypsum or plaster was then placed in the hopper next to the seed box; when in motion it dropped the corn with precision, and deposited about a gill of plaster on the corn.

This machine was then worked in a piece of plowed or cultivated ground and planted several rows; upon examination, and upon removing the earth, it was found that not more than five and never less than four grains were dropped with remarkable exactness in each specified distance. It was moved by one horse, guided by one man, it cleared away all lumps from the track or row, leaving a smooth surface on which and directly over the corn, was about one gill of plaster.

It seemed evident that no manual labor with a hoe, could perform work so well. An arrangement exists, but was not exhibited for working two machines by one horse, thus planting two rows at once.

The cost of a single machine is $20; when arranged for two rows the charge is $30. Moveable cylinders are applied and so constructed as to plant every variety of seed down to the most minute in size.

A Machine for sowing *all* seeds and grains *broad cast*, was presented by PIERPONT SEYMOUR. It has been much improved since its first introduction a few years ago. The indexed arrangement for graduating the delivery is good; the oscillating motion given to the shaft which distributes the seed is derived from the off wheel while a slower motion is given by the nigh wheel to metal levers when used for distributing plaster, bone dust, lime, ashes or any other special manures. Another excellent feature in this machine is the additional box from which clover or timothy seed can be equally distributed, while at the same time manures can be distributed from the larger box. Thus any combination of seeds and manures may be effected during the deposit of the seeds on the soil. This implement is usually moved by one horse, the driver has a seat above the grain boxes, and it sows a breadth of ten feet.

The advantages of Drill Husbandry have not yet been decided, except only the evident benefit of weeding drilled fields by the hand or hoe. Broad Cast Sowing has prevailed throughout the world, and possesses the advantage of greater expedition, and as many believe a greater product from an acre, and grain of more uniform quality. The perfection to which both Drills and Broad Cast Sowers has arrived, must ere long settle the claim of preference among cautious observing farmers.

CULTIVATORS.

Instruments for stirring the surface of the earth have long been extensively used in the United States; they were for a long time confined to the corn and potato crops, taking place of the plow for clearing or destroying weeds. Their form and mode of application were derived from the English grubber, scarifier and extirpator, neither of which were found sufficient for the desired operations on the fields of this country. The corn cultivator maintains its place under many modifications, but the working of

fallows has enlarged the cultivator of 1834 to an implement bearing a value about equi-distant between the plow and the harrow.

Eleven cultivators for general purposes were entered for trial; among them was an implement presented by Mr, Howe, of Canandaigua, denominated "a field cultivator:" it has seven teeth in a square frame supported on wheels, these wheels are within the frame, permitting the teeth to cut about two inches in depth. It is a compact strong implement, the front teeth are set directly before the wheels; a good arrangement, as it was evident the cultivator maintained a more steady course, the wheels running in the track of the teeth, and therefore less liable to be raised by lumps or other obstructions. An objection exists, however, to its action in the present mode of construction: it takes so slight a hold of the earth that it does not effectually disturb the grass and roots, neither did it work the entire surface over which it passed, leaving about one-fourth undisturbed; nevertheless, there are merits in this machine which will probably lead to one of the most perfect of its class. The price is $24. Draft is 350 pounds.

Seymour's Wheat Cultivator is an implement unused as yet by farmers, being now for the first time introduced. It consists of a set of 9 teeth applicable to his drill frame after removing the tubes, thus converting the wheat drill into a wheat cultivator intended to pass between the rows of drilled grain whenever a growth of weeds indicates a necessity for their removal, or it may be used for stirring the earth between the drills. The teeth are charged at $10 for the set of nine. The draft of this implement is 300 pounds, and is drawn by two horses.

L. L. Whitbeck, of Arcadia, presented his "Universal Plow." It is a light implement, consisting of three shovel shaped plows in a square frame, working the soil about 2½ inches deep or more, according to the mellowness of the earth. It may work with advantage on light sands or loam soils but can rarely be serviceable in the wheat soils. The draft was 230 pounds; worked by one horse and a driver. The price is $10.

Ides' Patent Cultivator was offered for trial by S. R. Tracy, of Newark, Wayne county. This implement has been extensively in use for several years; it has 7 teeth 13 inches long below the beam; this beam rests on wheels and so arranged as to be raised by levers, elevating the teeth above the surface of the earth, rendering its transportation from place to place as easy as any light two wheeled carriage; the levers work in notches on cast iron ratchets whereby the teeth are elevated or depressed at the pleasure of the driver; at this trial they worked at a depth of $2\frac{1}{2}$ inches, disturbing the whole surface to the width of the frame. The draft was not acertained as no means existed for attaching the dynamometer. The price is $30.

Root's Cultivator was introduced by Rapalje & Co. This implement has seven teeth with steel edges on a strong cast iron shank twelve inches long; the wheels are so disposed as not to incline the cutting edge of the teeth to hold firmly to the soil. The consequence was this cultivator did not perform its work well. It was worked by two horses and a driver; the draft indicated was 325 pounds, and the price was stated at $28.

Killam & Valleau exhibited a Gang Plow which was entered in the class of Cultivators. This implement consists of a frame to which is firmly attached four small plows; the frame is jointed and so constructed as to allow it to turn in a small compass, this is peculiar and well contrived, It is worked by three horses and a driver; on trial the furrows were cut $2\frac{1}{2}$ inches deep, and nine inches wide; the draft indicated was 450 pounds. The work performed was good, even and free from balks.

This implement does not belong properly to the class of Cultivators, for upon a recently plowed field, the work would probably be ragged and imperfect, not stirred and mixed as by the usually formed cultivator teeth. It was regretted that no such ground could be had for a trial. The implement appeared however to possess so much merit as to need this notice; the price is $30.

In the construction of Cultivators a defect was observable in several, which doubtless was noticed by agricultural mechanics; we allude to portions of surface soil in the track of the implements not stirred; the edges of the cutting tooth made a concave excavation, leaving ridges between the concaves, reaching nearly to the surface. This defect was confined to a few only of the Cultivators presented for trial.

THRASHING MACHINES.

The early history of Agricutural Mechanics as applicable to the separation of the grain from the straw, has even now become a matter of speculative doubt and inquiry. Looking to southern Europe, it seems strange that science has not more decisively overthrown the system of thrashing by treading out the grain from the ear by the feet of cattle; this seems more strange when we know that, before or at the Christian era, thrashing was done not only by treading, or by the flail; it was also performed by subjecting the sheaves of grain to "*a sharp threshing instrument having teeth,*"* which was something resembling a cart drawn over the grain by horses or oxen.

In northern Europe, where the arts and sciences have made great advances, we find even at this day, the early systems of thrashing, as practiced by the ancient Arabs, Syrians and Egyptians.

In this country, the feet of cattle and the flail gave way to well constructed and effective machines about twenty years ago. Since their introduction they have been steadily and quietly superceding the use of the flail, expelling its musical notes or exchanging them for the hum of the rapid-moving and toothed cylinder.

We see from the quotation above given that a toothed instrument was used for thrashing, two thousand years ago; and it is claimed that the first thrashing machine of Great Britain was patented by Michael Menzies of East Lothian in 1732. This seems to have been the germ of modern thrashing machines, for it was not until the year 1786 that a successful thrashing machine was invented.

*Isaiah, 41; 15.

These historical memoranda are alluded to, that a fact connected with this country may be preserved among our farmers, as interesting, at least in connection with the advance of agricultural mechanics.

In the year 1650 a volume was published in London purporting to describe the *machinery* used by the planters and farmers of Virginia. This work was compiled by Ed. Williams, who states that a saw-mill was in operation, which he describes, and which could be easily converted "to *thrashing wheat*, breaking of hemp or flax."

No pretentions are or need be founded on this curious agricultural and historical fact, yet it shows that thrashing wheat by machinery was thought of in this country at a very early period.

It was hoped, and the endeavor of your committee has been, to test the comparative merits and excellences of the thrashing machines, with a close approximation to accuracy, by comparing the quantity of wheat obtained by each, from a given quantity of sheaves of grain. With this view, one hundred sheaves of wheat were appropriated to each competitor; each parcel was carefully weighed; and a weighed portion being submitted to the action of each machine, the following results were obtained:

EXHIBITORS.	Character of machine.	Weight of sheaves.	Number of sheaves.	Weight of cleaned wheat.	Ratio of wheat to straw.	Revolutions of cylinder while thrashing.	Time in minutes.	Number of horses.	Kind of power.	Number of men in stead of horses.
Woodbury,	Separator and cleaner,	861	100	137	15.9	1300	13	6	S.*	6
Scovill,	do	710	102	161 1/2	22.7	1700	5 1/2	8	S.	6
Westinghouse,	Separator,	954	103	200	20.9	1450	13 1/2	2	E. C.	5
Jerome,	do	489	50	85	17.4	1600	8	1	E. C.	4
Hall,	Separator and cleaner,	1000	100	192	19.2	1650	8	8	S.	6
Badger,	Separator,	850	101	156	18.4	1600	17 1/2	2	E. C.	5
Eddy,	Thrasher only,	1080	100	174	16.1	1500	10 3/4	2	S.	5
Pitts,	Separator and cleaner,	934	100	194	20.8	1350	5 1/2	8	S.	7
Emery,	Separator,	840	102	169	20.1	1550	10 1/2	2	E. C.	5

If the relation between the wheat and straw had been equal in the several parcels, the fifth column would have determined the comparative values of the machines so far as their ability to sepa-

* In the 10th column S. means sweep principle, E. C. endless chain power.

rate all the grain was concerned. But throughout these trials the constant aim has been to avoid a reliance upon opinions: an earnest endeavor has been used to ascertain and record facts in relation to each machine with the nearest practicable approach to mathematical accuracy, and from such premises to determine merits and excellences.

It would mislead the farmers of this State, and do injustice to the inventors, if the results exhibited in the above table were allowed to stand as a correct exhibit of the ability of the several machines to separate the wheat from the straw.

It was obvious when inspecting the various parcels of wheat, that a difference existed with respect to the *quantity* of grain and straw in each; some were free from grass and weeds, while others were materially affected by them: another portion was much injured by the wheat fly or midge, while a part was free from this insect.

It seemed clear, therefore, that the table would present an imperfect test; an incidental occurrence proved the truth of this position. Messrs. Hall and Westinghouse were of opinion that their machines were not accurately tested in relation to *time*, and they were allowed to make a second trial. It was evident there could be no difference in the ability of each machine to thrash clean on the first and second trial, yet Westinghouse during his second trial obtained 164 pounds of wheat from 748 pounds of straw, equal to 21.9 per cent., and being one per cent. *more* than on his first trial; while Hall obtained 100 pounds of wheat from 1000 pounds of straw, equal to 16 per cent., being 3.2 per cent. *less* than on his first trial. Such discrepancies in machines when tried *against themselves* impair confidence in the test, although we obtain useful matter for judgment and establishing comparisons.

The following table brings to view various interesting particulars respecting the thrashing machines exhibited at Geneva:

Exhibitors.	Length of cylinder.	Diameter of cylinder.	Weight of cylinder	Weight of the machine.	Price.	Length of tooth.	Mash.	Motion.
	Inches.	Inches.	Pounds.	Pounds.	Dollars.	Inches.	Inches.	
Woodbury's,...	32	15	204	1000	145	$2\frac{1}{2}$	$\frac{3}{8}$	Undershot.
Scovill's.....	32	14	180	1300	150	2	3-16	Undershot.
Westinghouse,.	24	14	125	300	40	$1\frac{3}{4}$	3-16	Overshot.
Jerome,.....	22	14	....	300	35	$1\frac{1}{2}$	3-16	Overshot.
Hall,.....	30	14	....	1200	150	....	$\frac{3}{8}$	Undershot.
Badger,.....	28	16	135	300	35	$1\frac{3}{4}$	$\frac{1}{4}$	Undershot.
Eddy, ...	23	$11\frac{1}{2}$	175	350	40	$3\frac{1}{2}$	$\frac{5}{8}$	Undershot.
Pitts,.....	32	16	100	1200	150	$2\frac{1}{2}$	.....	Undershot.
Emery,.....	$26\frac{1}{2}$	$14\frac{1}{2}$	110	400	35	$1\frac{1}{4}$	$\frac{5}{8}$	Overshot.

These machines are so similar in their power of separating grain from straw, that any preference must arise from other considerations.

The cylinders all revolve at so high a rate of speed it becomes important to protect the journals from the gritty particles of dust which are always flying in profusion while thrashing; thorough lubrication is also essential. To secure these desirable ends, inventors have provided special contrivances; they cover the orifices for lubrication with close fitting tin covers to exclude grit and dust. In some instances a candlewick passes through a tube in the box which at one end touches the journal, and at the other communicates with a cup-shaped cavity on the box, filled with oil, from which cup it passes to the journal by capillary attraction. This contrivance was used by Westinghouse and worked well, while the machine was under examination. Tallow was used on Pitts' machine, being placed within a collar on the upper box, covered by the tin cap; a straw is thrust through the tallow to the journal. Through this hole thus made oil is poured for lubrication. If by neglect the supply of oil is deficient, the journal becomes heated, melting the tallow, and for the time perfect lubrication ensues. These contrivances are among the best presented, to guard against negligence; but the farmer must esteem them only as expedients never to be relied on for the preservation of his machinery: due attention and uniform application of substances to lessen friction, are not to be omitted with impunity.

Pitts' machine is furnished with an open cylinder: this is deemed objectionable as some of the heads of wheat or other grain are lost by falling through the open spaces. This loss was particularly noticed when the Pitts machine was working with the endless chain power, at which time it was divested of the cleaning apparatus. When, however, the cleaning apparatus was attached, it made clean work, as the falling heads were carried back by elevators and thrashed over until they were clean. A marked difference in value exists, therefore, adverse to the use of open cylinders, unless accompanied by apparatus for re-conveying the loose-falling heads to the cylinder.

Westinghouse's cylinder moves upon steel journals; moveable tin curtains are supplied to keep dust and stones from the face of the operator; in other respects there is little, if any difference, from other machines.

The plan and construction of Eddy & Co's machine recommend it for durability and ease of repair. The cylinder is formed by a series of iron rings on an iron shaft passing through their center; two wrought iron arms pass from near the center of each ring through the circumference, and by their projection beyond it, form the teeth of the cylinder, which is hollow, not liable to burst or fly apart, and in case of fracture may be repaired with great facility.

It will be noticed in the table that with the exception of Scovill's, Eddy's cylinder is the heaviest, and therefore at equal speed would have the greatest momentum, and if the resistance was uniform, would absorb the most power; but in thrashing, when motion is obtained from horse power, the resistance is irregular, and we apprehend the weight of the cylinder will not, in fact, require more power, but in effect operate like a fly-wheel, equalizing motion.

The simplicity of construction of this machine, and its general excellence, obtained commendation from every member of the committee.

In relation to the teeth of cylinders, a difference of $\frac{3}{4}$ of an inch is observable in the various machines. (See the table.) No special difference in the performance of their work was observable, as derived from the length of the teeth; the prevailing opinion is, therefore, that the shortest are to be preferred, as by their smaller leverage they are less liable to fracture.

For many years grain was thrashed by portable machines and left in the chaff, to be cleaned at the convenience of the farmer. The inventive genius of our people next presented to the agriculturist a combination of parts whereby the grain was thrashed, winnowed, and delivered clean for the granary, at one operation.

These latter machines are fast increasing in number, and four of this class were presented for trial, while five simple thrashers were exhibited; all in competition for the same premiums. The class of thrashers with separators and cleaning apparatus, consisted of machines presented by Pitts, Scovill, Woodbury, and Hall. The simple thrashers were those of Emery, Westinghouse, Eddy, Badger and Jerome.

These distinct classes cannot be compared with each other: and your committee have viewed them as unconnected. The great difference in weight and cost of these classes is distinctly noticeable in the table.

For the purpose of comparing the cheapness of thrashing by these two classes, it may be assumed that 4500 sheaves (or any other number) is the average quantity of work per day for Pitts' machine; and that 360 pounds of clean wheat is the yield from each 100 sheaves: these $\frac{360 \times 45}{60}$ gives 270 bushels of clean wheat per day. The machine requires eight horses at 50-100 per day each, and seven men at one dollar each, making an aggregate cost of $11 per day, or 4 cents and 7 mills per bushel.

The table shows that Emery's machine requires twice the time to perform the same work that Pitts' machine will accomplish: therefore Emery will thrash 135 bushels per day. To perform this work Emery requires five men and two horses, the aggregate cost of which is, at rates before stated, $6 per day, or 4 cents 4 mills per bushel.

The difference is 37 mills per bushel in favor of Pitts' machine, which is increased by whatever the cost may be of winnowing the grain thrashed by Emery's machine and left in the chaff. This difference will pay the extra interest on the cost of the larger machine, the expenses of keeping it in repair, and the cost of an elevator to remove the straw to the stack yard.

These advantages belong alike to all the machines of the class of which Pitts' is the representative.

Not a particle of thrashed grain passed over with the straw of Pitts' thrasher, neither could any heads be found from which the grain was not thoroughly thrashed out. While, however, great and well deserved credit is due to this machine for thoroughness of work and its facilities for repair, it is to be regretted that more attention has not been given to durability and solidity of structure: it is worthy of the best workmanship, which in the specimen exhibited is in a ratio far below its merits.

The same negligence and inattention seem to prevail *generally* in machinery and implements for the farmer's use, inflicting serious injuries upon the cultivator, and discredit upon the mechanics who prepare them.

In Hall & Thompson's machine it was discovered that a little yet a very little wheat passed over with the straw; and the heads were not as perfectly thrashed as by Pitts'. Yet on the whole the performance was very satisfactory.

Woodbury's machine is novel in its construction, and the adjustment by which the horses can be stopped immediately is very useful in practice. The belt being carried above the horses, relieves them from the necessity of stepping over it: it is very portable, but it did not thrash well—a constant stream of grain was passing over the apron with the straw, and the heads seemed imperfectly thrashed.

Scovill's machine also wasted the grain too much to be used with advantage.

In the class of Thrashing Machines without any cleaning apparatus, it has been remarked that but little actual difference exist-

ed in respect to the mere power of separating the grain from the straw; hence the chief difference between them is in durability, workmanship, power required to work them, and cost.

Emery & Co's machine is thoroughly built, the journals run in Babbett metal boxes, and consuming no more power than others of its class, has the advantage of economy in the first cost.

Badger's Thrasher and separator did not entirely fulfil the expectations formed by many. The differences, however, between this and the more perfect machines on the ground, need not prevent its use, for these differences are slight though palpably sufficient to make a discrimination.

HORSE POWERS—SWEEP OR LEVER.

The following table exhibits the most important facts in relation to Horse Powers on the sweep or lever principle.

	Pounds required to start the machine.	Revolutions of driving wheel to one sweep.	Revolutions of driving wheel per minute.	Pounds of traction to sustain the speed.	Diameter of the sweep in feet.	Price.	Weight.	Revolut'n of band wheel for each lb. of tract'n.
						Dollars.	Pounds.	
Eddy & Co., (iron,)	18	82	255	16	20	.....	.....	15.94
Eddy & Co., (wood,)	18	82	250	20	22	.....	.....	12.50
Woodbury,	54	125⅓	212	30	20	.....	.....	.....
Wakeley,	50	.....	372	16	25	100	1,250	23.25
Pitts, (iron,)	54	200	550	30	23 2-12	100	.....	18.33
Pitts, (wood,)	54	200	610	30	24	100	7,200	20.33
Scovell,	.....	.....	.....	.....	.....	.....	.....	.....
Hall & Co.,	.....	.....	.....	.....	.....	.....	1,600	.....

The data in this table show that the greatest effect produced by a given draft is by the Wakeley power: in other respects also, this seems to be a good machine. It is constructed on what has been termed the "sun and planet system"; the teeth are carefully formed, upon true principles; friction is reduced, and the workmanship throughout is substantial.

HORSE POWERS ON THE ENDLESS CHAIN PRINCIPLE.

In the absence of Dynamometers applicable to a determination of the force required for operating horse powers on the endless chain principle, your committee adopted the following plan:

Every platform on which the horses tread was elevated to form an angle of 13 degrees with a level base line; two men whose weights were ascertained, were placed on the platform, and the number of revolutions of the driving wheel derived from their gravity was ascertained by the speedometer; the length of platform required to make one revolution of the driver was carefully measured. From these data the length of platform passed over by the men in one minute was readily obtained, and with the length of the platform and two angles being known, the elevation attained by the men in one minute, walking on the platform, was ascertained; or in other words, the heighth of a perpendicular line in the direction of which a weight would be raised, by a given power on an inclined plane.

With these facts carefully obtained and noted, the following results were ascertained, and are here exhibited in tabular form:

EXHIBITORS.	Revolutions of the band wheel in one minute.	Length of platform moved to produce one revolution of the band wheel.	Length of platform travelled over in one minute.	Number of feet raised perpendicularly in one minute.	Weight raised thro' perpendicular space.	Traction in lbs to start the mach. from a state of rest.	Weight placed on the platform.
		Inches.	Feet.	Feet.	Pounds.	Pounds.	Pounds.
Emery & Co.,...	430	10 3/4	372	83.68	52.18	50	232
Westinghouse,..	386	7 1/8	229	51.51	52.18	54	232
Pitts,.....	205	14	239	53.76	52.18	42	232
Badger,.....	218	10	181	40.72	52.18	50	232

A second trial was made with these machines, placing six men on the platform, whose aggregate weight was 925 pounds. The thrashing machines were attached to the powers, and the following results obtained.

EXHIBITORS.	Revolutions of the band wheel in one minute.	Length of platform moved to produce one revolution of the band wheel.	Length of platform travelled over in one minute.	Number of ft. raised perpendicularly in one minute.	Weight raised thro' perpendicular space.	Weight of the six men.
Emery & Co.,.....	240	10 3/4	207	46.56	208.80	925
Westinghouse,.....	256	7 1/8	152	34.19	208.80	925
Pitts,.....	91	14	106	23.84	208.80	925
Badger,.....	150	10	125	28.12	208.80	925

This test did not furnish a comparative value of the machines as close as desirable; for the thrashing machines attached to the powers were of various sizes, with unequal momenta, and subject to various degrees of friction.

The committee endeavored to correct this source of difference, at Utica, during the Fair, by testing each horse power with the same thrashing machine. Upon this occasion, five men, weighing in the aggregate 714 pounds, were placed on the platform, of each machine, elevated as before to 13 degrees, and the following comparative results were obtained:

EXHIBITORS.	Revolutions of the driving or band wheel.	Length of platform moved to produce one revolution of the driv. wheel.	Number of ft. travelled on the platform.	Perpendicular elevation.	Weight raised thro' the perpendicular space.	Revolutions of the cylinder.	Weight of the five men.
Emery & Co., ...	259	$10\frac{3}{80}$	224	50.39	160.62	1996	714
Westinghouse, ...	217	$7\frac{1}{80}$	129	29.02	160.62	1390	714
Badger, ...	360	10	300	67.48	160.62	2160	714

Mr. Pitts was not present at Utica with his machine.

It is obvious from the foregoing tables, that Badger's machine works with the least friction; or, in other words, gravity gives to his machine a greater amount of useful power than to either of the other machines on trial, having the advantage in regard to the revolutions of the cylinder of *seven and a half* per cent. over Emery and Co., and a still greater advantage over Westinghouse. In regard to the power exhibited by the weight descending the platform, it appears that the same weight moved Badger's platform 300 feet, and Emery & Co.'s 224 feet, the difference (76 feet) being $25\frac{1}{3}$ per cent in favor of Badger's power.

Badger's power is well made, and in this respect deserves much credit; yet in this excellence he is exceeded by Emery & Co. The platform of Badger's horse power rolls over friction wheels of unusually large diameter. It is a rack and pinion power, the lugs being connected by strong iron links, and the rack, though straight, is provided with teeth increasing in depth as they approach the exterior edges of the pieces into which it is divided,

and is perforated in the center of each piece to accommodate the convexity of the pinion while passing over it. This perforation weakens the pieces and increases their liability to fracture; from their structure, a rubbing action seems to be inevitable, causing rapid wear.

The platform of Emery & Co's power rolls over reels furnished with clutches so disposed that the action of the rods is ever nearly in a direction of a tangent to the circle, and therefore acts to the best advantage. This arrangement seems less liable to wear than any other, and the entire contrivance and perfection of the work gives to it a marked superiority.

Three one horse powers were next submitted for trial. Two men weighing together 317½ pounds were placed on the platforms, and to each power was successively attached the same thrashing machine. The following results were obtained:

Emery & Co.	produced	950	revolutions	of the cylinder.
Badger	"	630	"	"
Jerome	"	595	"	"

STEAM ENGINES FOR AGRICULTURAL PURPOSES.

One engine only for agricultural purposes was presented for trial. No sufficient arrangement could be conveniently made on the trial ground to secure the engine in a solid position and to avoid vibration; hence a difficulty occurred preventing the use of a dynamometer of rare excellence, procured from the Hadley Falls Company. Under these circumstances it was determined to have a more perfect trial of Messrs. Hoard and Bradford's portable steam engine, at Utica, during the week of the State Fair.

The attention of the society and of farmers of this State has been invited to several attempts within a few past years to employ steam in the place of animals, as a motive power for thrashing, sawing, and all farm work which may be accomplished by fixed or portable engines. We are not informed that any farmer in this State has adopted them, though much interest has been felt in the improvement of engines and their nearer approach to perfection. Extended inquiries are necessary, and many well established evidences will be demanded to show that steam can

be employed in our farm operations with economy, prudence and safety. The farmer will compare the cost of an engine, the fuel and wages for working it, with cost, food and care of horses: the wear of the engine must be computed, as well as the depreciation of animals by age and hard labor. It is not necessary to enter into these estimates now, yet they are mentioned to draw the attention of farmers to an auxiliary highly esteemed and extensively employed in other countries.

It is regretted that Messrs. Hoard & Bradford did not present their engine at Utica for further trial, as your committee was prepared to devote much time to its examination: they had purposed to lay before the farmers of New-York an account of existing improvements in this branch of agricultural machinery, as a motive power for their uses, and to have examined the comparative values of fuel whether of coals or wood; thus leading the mind to inquiries which at an early day will probably be forced upon our consideration. Messrs. H. & B. were prevented from attending by the sickness of the men in their employ.

Among other important questions, even now claiming our care, is the relative value of portable and stationary powers. It is a question which should earnestly engage the consideration of the farmer who uses the power of horses with machinery, for it materially affects the economy of the farm, in the disposition of the buildings and various means for the protection of grain crops.

Knowing that steam power is employed in British husbandry, and that it is claimed to be a source of economy and profit, it seems to be a fair field for American enterprise and ingenuity, to seek a result as successful in the application of steam to farm labor, as has been achieved on our rivers, our roads, and on the ocean.

PRICES OF MACHINES.

Before closing this report your committee ask attention to the column of prices or marketable values, in the table, as declared by the several proprietors of machines presented for trial. It has long been a source of annoyance to the farmer to be urged

and pressed to purchase agricultural machinery at exorbitant prices, under the plea that the patent right expenses forbid a less selling price. But aside from all excuses thus offered, there is sound reason to believe that the farmer usually pays more than twenty-five per cent beyond a *reasonable* compensation for the machinery purchased by him. To illustrate this position in part, your committee were informed by Manny, the proprietor of the Illinois patent adjustable reaper, that "his price in Illinois was $135, but with increased facilities for manufacturing had reduced the price to $125; and with far greater facilities for manufacturing here, (New-York,) materials being only about *one half the cost*, and *labor easier obtained and cheaper*, my price here would be reduced to $100 without the platforms, and with three extra knives, with platforms, $105. You will understand the machine exclusively for mowing, $100; for mowing and reaping combined, $105."

In addition to the foregoing there is reason to believe that these Illinios machines may be constructed for $60 to $75 each. We would by no means interfere with rights or privileges in any form; but we deem it a paramount duty to guard the interests of the farmer. When all parties are well informed in regard to labor applied, and its *products in articles* not of agricultural origin, then demand and supply will fairly regulate each other.

The continued duties of your committee at Utica, in relation to the machines presented for trial at Geneva, prevented an examination of many excellent machines and implements presented at the annual fair: it was due to the exhibitors that a more extended notice should be taken of them, than could be accomplished. A roughly made grain reaper, and evidently a first experiment, attracted notice by the novel action of the knives; the blades forming a triangle, and the cutting edges inclining at an angle of about 40° with the base. These knives are attached to an endless chain, each one passing through a finger, against the edge of which it operates with an oblique or drawing motion. By this arrangement there is no vibration and no dead points to overcome. The base of the knife is 4½ inches, the perpendicular being 3½ inches; each blade moves 18 feet for every revolution of the

driving wheel. There are points about this machine deserving encouragement.

We have thus presented such facts derived from the trials of Implements and Machinery, as will we trust meet the desired ends of the Executive Committee. We have combined therewith remarks which may not be deemed strictly relevant, yet they flow from the subjects treated, and may be acceptable and useful to the farmer, as well as conducive to our agricultural advancement.

After mature deliberation, we adjudge and award the premiums offered by the society, as follows:

AWARDS

ON THE TRIAL OF IMPLEMENTS AND MACHINERY AT GENEVA.

To T. D. BURRALL, of Geneva, New-York, for the best Grain Reaper—*Diploma* and $50.

J. H. MANNY, of Wadham's Grove, Ill., for the second best Grain Reaper, (convertible for grass mowing)—$30.

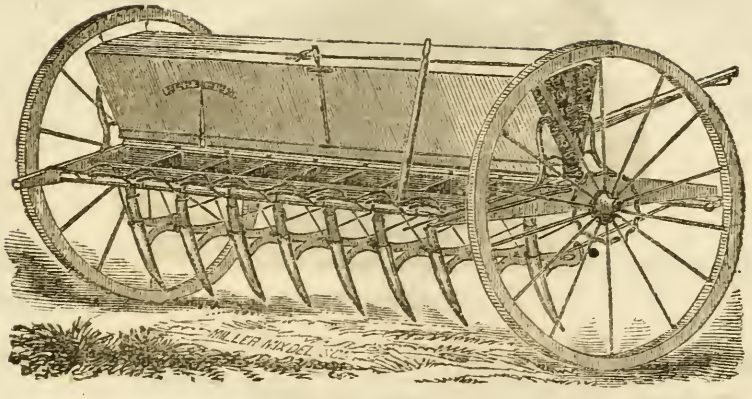
SEYMOUR & MORGAN, of Brockport, N. Y., for the third best Grain Reaper—$20.

Mowing Machines.

J. H. MANNY, of Wadham's Grove, Ill., for the best mowing Machine, (convertible for reaping)—*Diploma* and $50.

HOWARD & Co., of Buffalo, N. Y., for the second best Mowing Machine, Ketchum's Patent—$30.

Grain Drills.



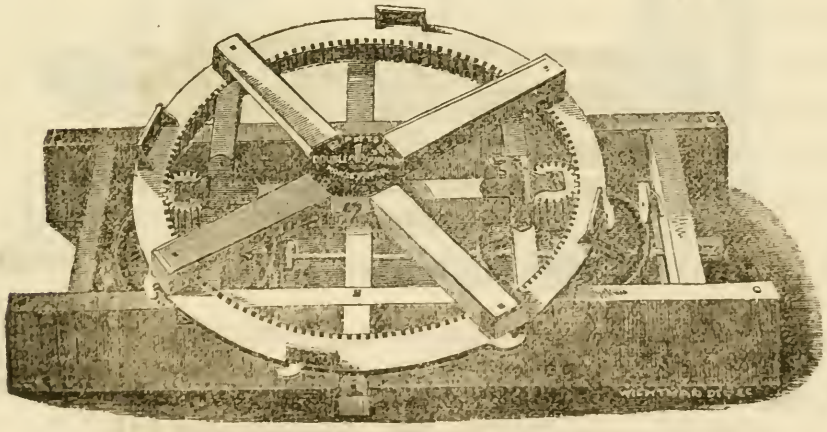
PIERPOINT SEYMOUR, of East Bloomfield, Ontario Co., N. Y., for the best Grain Drill—*Diploma* and $25.

BICKFORD & HUFFMAN, of Wayne Co , N. Y., for the second best Grain Drill—$15.

S. R. TRACY, of Newark, Wayne Co., New-York, for the third best Grain Drill—$10.

Horse Power, on the Lever Principle.

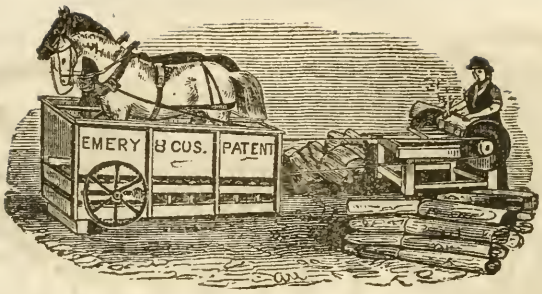
J. A PITTS, of Buffalo, New-York, for the best Horse Power for general purposes—*Diploma* and $25.



EDDY, DYER & Co., of Union Village, N. Y., for the second best—$15.

Horse Power, on the Endless Chain Principle.

Near Side View



Off Side View.

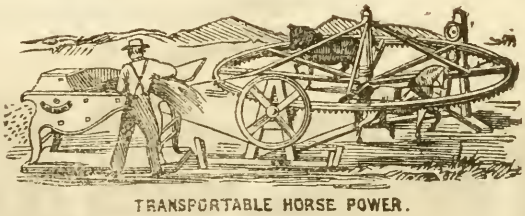
EMERY & Co., of Albany, New-York, for the best Horse Power, Endless Chain—*Diploma* and $25.

E. W. BADGER, of Fly Creek, Otsego Co., N. Y., for the second best—$15.

Horse Power—Iron.

B. H. WAKELY, of McLean, Tompkins Co., New-York, for the best Iron Horse Power—*Diploma* and $25.

EDDY, DYER & Co., of Union Village, Washington Co., N. Y., for the second best—$15.

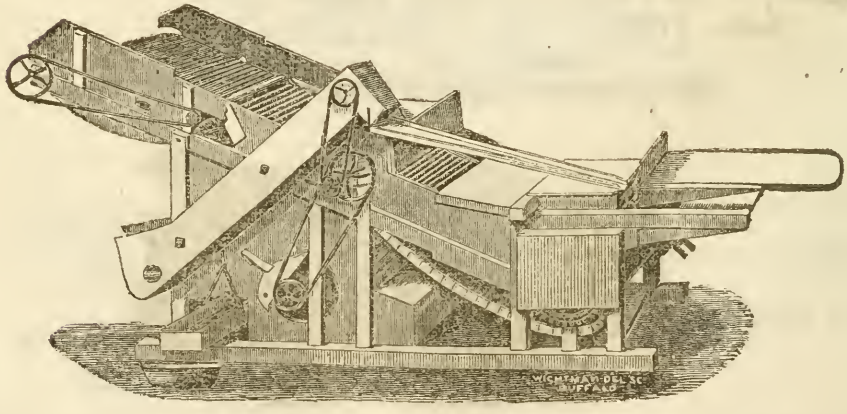


TRANSPORTABLE HORSE POWER.

J. A. PITTS, of Buffalo, New-York, for the third best—$10.

Thrashing Machines, with Cleaning Apparatus.

J. A. PITTS, of Buffalo N. Y., for the best Thrashing Machine, with Cleaning Apparatus—*Diploma* and $10.



HALL & THOMPSON, of Rochester, N. Y., for the second best—$8.

Thrashing Machines, without Cleaning Apparatus.

EDDY, DYER & Co., Union Village, Washington Co., N. Y., for the best Thrashing Machine, without Cleaning Apparatus —$10.

Seed Planters

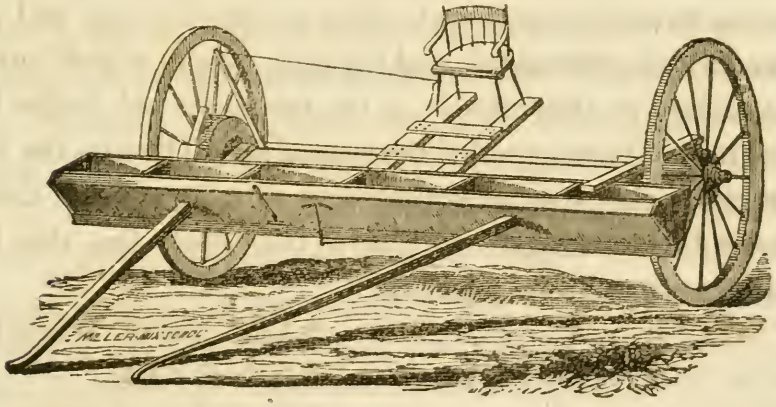
JOSHUA WOODWARD, of Haverhill, New-Hampshire, for the best Seed Planter—*Diploma* and $10.

Cultivators for general purposes.

S. R. TRACY, of Newark, Wayne Co , for the best Cultivator for general purposes—*Diploma* and $10.

HENRY HOWE, of Canandaigua, Ontario Co., N. Y., for the second best—$8.

Broad Cast Sowers.



PIERPOINT SEYMOUR, of East Bloomfield, Ontario Co., New-York, for the best Broad Cast Sower—*Diploma* and $10.

J. DELAFIELD,
RAWSON HARMON,
ANTHONY VAN BERGEN,
JONATHAN EDGECOMB,
J. STANTON GOULD,
SANFORD HOWARD,
E. P PRENTICE,
GEORGE GEDDES,
JOHN MALLORY,
ANDREW J. HEERMANCE.
JOSEPH E. HOLMES,

Committee.

REPORTS AT UTICA.

DEVON COWS.

The committee on Devon cows, heifers and heifer calves, respectfully report, that they have had great difficulty in awarding the premiums; the animals of this class being not only numerous, but of superior excellence, uniformity in this respect rendering selection a work of no ordinary kind. Your committee in following instructions have been zealous to discover the true age and purity of all the animals submitted, and the only case in which any difficulty has arisen in this respect, is the two years old heifer in No. 83, (to which we have awarded the second prize) having the mouth of a three years old; your committee took much trouble in this case, and after a full investigation came to the conclusion, that it was a case of premature development.

PATK. ROSE WRIGHT,
JOHN WADE,
ROBERT C. KEESE.

AGES OF STOCK.

An application having been made to the Executive Committee to examine the awards of the committees on Devon cattle, the same was duly considered, and the annexed report of the proceedings of the Executive Committee, will show that the matters were fully inquired into, and that the awards in the respective cases were made in strict conformity to the regulations of the Society:

STATE AGRICULTURAL SOCIETY, }
Utica, Sept. 9, 1852. }

At a meeting of the Executive Committee, September 9th, a remonstrance signed by Joseph H Eastman and others, was presented, in relation to the award of the committee on Devon Bulls on

the bull "May Boy," owned by Mr. Wainwright, who was awarded a premium as a one year old bull; and also in relation to the age of the Devon heifer "Red Bird."

The rules of the Society require that all animals three years old or under, shall have their ages determined by the time of their birth. The evidence in the case of the bull "May Boy," was furnished by the owner to the judges, at the time he was examined. The bull was dropped on the 30th day of *September*, 1850, and could not compete in any other class than that in which he was entered as a one year old bull. The heifer "Red Bird," entered as a two years old, was calved February 14th, 1850, and was properly passed upon as a two years old.

Mr. Wainwright presented to the committee, the record of the age of the bull, as received from his breeder, Mr. George Turner, England; and the bull is duly registered in the English Devon Herd Book, as calved September 30th, 1850. The heifer was proved, by the certificate and affidavit of Mr. Wainwright, to have been dropped February 14th, 1850, and competed last year as a one year old, without question; and the Executive Committee, are unanimously of the opinion, that the award of the committee, so far as the ages of the animals are concerned, is in strict conformity with the rules of the Society; which were adopted at the suggestion of gentlemen interested in Devon cattle, who desired that evidence should be adduced, of the ages of animals, dating from their birth.

B. P. JOHNSON, *Sec'y.*

REPORT OF COMMITTEE ON HEREFORD CATTLE.

After giving the awards the report proceeds: The committee had the pleasure of examining a herd of fifty head of Hereford grade cattle, of different ages and conditions, exhibited by George Clark, of Springfield, Otsego county. The highest praise is due to Mr. Clark for this most excellent and interesting display, furnishing as it does, a far better oportunity to judge of the merits and demerits of any particular course of breeding, than the almost universal practice of culling out and exhibiting of a few choice animals. Poor indeed must be the farmer's stock of cattle, if he cannot pick out some few really good ones; but those few should not be taken as stand-

ards by which to form an estimate of the whole. Let breeders bring forward their whole stock, and we shall soon be able to form an opinion as to what breed and what grade is the best adapted to our soil and climate. Mr. C. has something yet to accomplish before he produces a perfect animal, but knowing his zeal and perseverance, we have great confidence in his ultimate success. The committee would most cordially recommend to Mr. Clark a discretionary premium of a large silver medal, and as cordially recommend his example to be followed by others hereafter.

On the subject of condition, your committee would further remark that while they consider certain animals in No. 84, to which they have awarded premiums, were somewhat too high in condition, they also must regret that other animals in No. 94, were decidedly too poor to do themselves justice, while they beg leave to suggest that the whole of the stock No. 110, shown by George Clark, were in exactly the best and most healthy condition for store cattle, and for a fair exhibition of their points and quality.

We were gratified again to see on the ground, those excellent models of Herefords, "Victoria," the property of E. Corning, Jr., and her produce, "Lilla," the property of William H. Sotham. Both these cows having on former occasions been awarded first premiums, your committee most respectfully suggest that, as a distinguishing mark of excellence, a diploma be granted to each of these.

GEO. SHEFFER,
JAMES REES,
FRANCIS ROTCH.

To the Executive Committee of the N. Y. State Ag. Soc.:

The undersigned, the Com. of the Society on Hereford cattle, would state, that upon an examination of the stock on the ground, they find that although two bulls were entered on the books as three years old, only one was found on the ground, and of the three entered as *two years* old, two were, in the opinion of the committee, from their general appearance and the usual age marks, declared to be three years old, and not entitled to compete as *two years old.* The committee, not deeming it proper to alter the entries as made upon the books, would respectfully refer the matter to the Executive Committee of the Society for their action.

GEO. SHEFFER,
JAMES REES,

Sept. 8th.—At a meeting of the Executive Committee,

Resolved, In relation to the matter contained in the foregoing request, that it be recommitted to the committee with directions, that if, they are satisfied that the bulls referred to, or either of them, are not three years old, taking the time of birth as established by the whole evidence before them, then that they be passed upon as two years old, otherwise that they be passed.

By order, B. P. JOHNSON, *Sec'y.*

AYRSHIRES.

The committee on Ayrshire cattle at the Annual Show at Utica, owing to the excitement usually created upon all that feel an interest in an exhibition so important to the farmers of this State, and country, they then merely awarded the premiums to the animals that were in the opinion of your committee, entitled to them, with a promise to report more fully. The one-year old bull and the cow (of late importation) exhibited by James Brodie, Esq., of Ellisburgh, Jefferson Co., were two animals certainly of remarkable beauty in all the fine points that seem to be necessary to make a perfect dairy animal. The citizens of Jefferson, as well as of the State, may well be proud of having two such animals introduced, and it is to be hoped, that they will appreciate their merits, by exhibiting in due time their offsprings. The two-years old bull exhibited by E. P. Prentice, Esq., of Mount Hope, Albany Co., is an animal of many fine points, the marks

of a good constitution, fine handling qualities, animated but docile with all the merits of a thoroughbred animal, and sustains the high reputation of his pedigree. The cows "Red Lady" and "Jenny" are very fine, and exhibited very strongly the points necessary for the dairy cow, in fact all the animals exhibited by Mr. Prentice carry the features of thorough breeding, and sustain the reputation which his success in the breeding of cattle entitles him to.

It would we apprehend be presumptuous in your committee to report the favorable statistics heretofore published, both in the Old Country and the United States, in regard to the superior merits of this breed of cattle for the dairy, it has become upon undoubted and reliable authority as much a distinct breed as any other improved breed of cattle, and from the best authority they originated from as valuable stock as any existing, particularly for the dairy, (the Teeswater and Alderney.) "The Ayrshire breed of cattle" says Mr. Aiton "is the most improved breed of cattle to be found in the Island, *not* only for the dairy in which they have no parallel, under similar soil, climate and relative circumstances; but also in feeding for the shambles. They are in fact, a breed of cows, that have by crossing, coupling, feeding and treatment been improved and brought to a state of perfection, which fits them above all others yet known, to answer almost in every diversity of situation, where grass and grain can be raised, to feed them for the purposes of the dairy or for fattening them for beef." "In a whole herd of forty or fifty there will not be two of them alike in color, in this respect exhibiting a diversity, not unlike a bed of tulips, and of as many hues and shades, in an endless variety of beauty. The usual produce of butter from these cows, is ascertained to be about half their weight (meaning the four quarters,) in a year, but this requires that the pasture be good, the season over." (Robertson.) The qualities of an Ayrshire dairy cow "are of great importance, tameness and docility of temper, greatly enhance the value of a milch cow; one that is contented, feeds at ease, does not break over fences or hurt herself, and such cattle will always yield more milk, and are easier to manage than those that are of a turbulent disposition.

"Ten Scotch pints is in no way uncommon, several cows yield for some time twelve pints and sometimes thirteen or fourteen pints per day. Another quality of the dairy breed of Ayrshire, is that after they have yielded large quantities of milk for several years, they are as valuable for beef as the Galloway cow or any other breed of cows known in Scotland; they fatten as well, and their beef is not inferior to any other breed of cattle in Britain," (Aiton.)

Your committee are strongly impressed in the belief from the evidences before them, and the most authentic authority, both at home and abroad, that this breed of cattle must become of great value to the country. It is not to be denied that some importers in this as well as in other improved breeds are sometimes unfortunate in their selections, but from the selections presented to us, they must regard the owners as being particularly fortunate; they certainly possessed as many points of excellence for the dairy as any stock that ever came under our observation, and we should think, a correct drawing of many of them would make a picture that would satisfy the most fastidious, without attaching the parts of the one to the other to make it what it should be. The farmers of this State are under many obligations to the several importers in the different breeds of cattle, and it is fortunate that their taste leads them on in this age of progress. Unfavorable prejudices are more easily impressed on our minds than favorable ones, and they are as apt to prevail in the improvement of stock as in any other improvement in the science of agriculture; farmers as a general thing are very conservative in their movements and are apt to think the cows of *our* breed are good enough because *our folks* have had the breed as long as any body can remember; and see, they will say what large beautiful horns they have, and then again they will say, they will live on the picking from a straw stack all winter, and if they dont die in calving will give milk all summer. These qualities they say are of the highest consideration, so let well enough alone; but with all these prejudices and the tardiness in appreciating the improvements that are yearly exhibited at our State and county societies, both in stock and implements, it must be apparent they are all

matters of the greatest interest to them, and if "all is not gold that glitters," there is every opportunity to improve their stock through the advantages of the societies in every county in the State, at a very small expense. Mr. Howard says, and his remarks are always reliable in matters interesting to the farmer; "From a fair consideration of the Ayrshire stock, it is believed, that their adoption for the dairy would secure the following advantages over the stock commonly kept for that purpose in this country: 1st. A greater quantity of milk, butter, and cheese, for the food consumed: 2d. Greater uniformity in the general character of the stock from its inherent or hereditary qualities: 3d. Better symmetry and constitution, and greater tendency to gain flesh when not giving milk."

B. B. KIRTLAND,
T. E. FOSTER,
J. A. NORTH,
Committee.

MILCH COWS.

The Executive Committee have made efforts to obtain reliable information as to the breed of cattle best adapted to the dairy. Their regulations, which are annexed, if they had received attention, to any considerable extent, would have resulted in some approximation at least to the kind of cows best suited to the purposes of the butter dairy. The requirments are, that,

"The cows should be kept on grass only during the experiment and for fifteen days previous to each period of trial."

"The time of trial from 10th to 20th June, and from 10th to 20th August.

"*Statement to be furnished, containing:*"

"1st. The age and breed of cow, and the time calving.

"2d. The quantity of milk in weight, and *also* of butter during each period of ten days."

"3d. The butter made to be exhibited with the cow, at the Fair, and the statement to be verified by the affidavit of competitor and one other person conversant with the facts."

The premiums offered have been from $20 to $25, which it was supposed would have induced our dairymen to give their attention to the subject: but it is a matter of regret that so little regard has been paid to it. There have been but a very few instances in which the requirements of the Society have been complied with, and not sufficient to form any general opinion as to the breeds best adapted to the purposes of the dairy.

We give the report made by Moses Eames, Esq., a leading dairyman in Jefferson county, at the last Fair, at Utica, in the hopes that his suggestions may lead, hereafter, to more attention to the subject, which is one of no ordinary importance to the farmers of our State.

"Your committee regrets that so little attention is paid by some that have taken the time and trouble to get their cattle or articles to this State Fair, to inform themselves of the requirements of the regulations to entitle them to premiums on milch cows.

"We have no correct account before us by which to govern or guide our opinions. One of the applicants has a common statement, at random, of the keeping of a red heifer calf, and that she was two years old last winter, &c. The whole is but a guess at what she might be for a dairy cow.

"The other competitors had no statement, and could answer no questions, as to the quality of milk or butter, as required by the regulations of the Society. Now the conclusion of your committee is, that each of the exhibitors should (if you think proper) have a volume of Transactions; and we hope that, by *the careful reading of these volumes*, they may, at a future day, be better prepared for exhibitions.

"This committee deem it very important that the requirements in this department should be fully carried out; for there is, at the present day, much difference of opinion as to which is the best breed of stock for the butter and cheese dairy, and it is, therefore, important that the Society insist on a full compliance with the requirements which are made.

"MOSES EAMES, *Chairman.*"

THOROUGH BRED HORSES.

The committee report that the number of horses entered for premium was twelve, but for reasons unknown to them only six were brought forward for examination. This your committee exceedingly regret, as they feel assured that in the great State of New-York, there must be very many superior thorough bred horses, and it is highly desirable that they should be seen and known.

A thorough bred stallion, Consternation, owned by J. B. Burnett, Esq., of Syracuse, eleven years old, was in the opinion of your committee a very superior animal, and to say the best horse exhibited would indeed be faint praise. His pedigree, as shown to your committee, was not only *perfect* but *brilliant*, and his stock of which quite a number was shown, is a sufficient guarantee of his character as a "*getter*" of superior stock. Having taken the first premium heretofore, excludes him from receiving a premium. In regard to the other horses, your committee very much regret that there were no others *produced* which in their estimation were entitled to either of your Society's premiums.

All of which is respectfully submitted,

THOS. MOTLEY, Jr., *West Roxbury, Mass.*
WM. R. GRINNELL, *Levana, Cayuga County. N. Y.*
EDWARD BRUNDIGE, *Pokeepsie.*

MIDDLE WOOLED SHEEP.

It is not necessary for your committee to offer any decision on the utility of the sheep commonly known as South-downs. Even among us there is a friendly difference of opinion, as to their intrinsic value, taking into consideration the yearly cash product of their wool. We have no doubt, as to their superiority over all others as mutton sheep, their hardihood, and their unrivalled symmetry and beauty. No sheep is more ornamental upon the lawn or field in summer, none presents so singularly comfortable and contented an appearance, as with the quietness of its nature, it cranches the crisp dry hay among the snows of winter.

Where a few sheep only are kept, for the pleasant and legitimate pride of ownership, for the supply of the family table, and for such wool as is needed in a farmer's household, we regard the South-downs as *the best sheep.*

No other distinct breed has been offered to us in this class, but under the title of "middle-wooled," we have, after reference to the proper officers of the Society, included such cross-bred sheep as possessed wool neither coarse nor fine, long nor short. In no case did we consider any such sheep were entitled to precedence over the South-downs. In some cases they were superior in wool, but this superiority was more than counter-balanced by inferiority in form. These are in one sense "grade-sheep;" and although the subject comes more strictly under the consideration of the committee on that kindred class, we would offer the suggestion as arising from facts which fell under our own observation, that it would be well to divide the classes of "grade sheep" into coarse-wooled and fine-wooled, since it is most difficult to institute any fair comparison between sheep differing so widely in all respects, as those now competing under the class of "grades."

There were few sheep offered for competition as "middle-wooled," and in these cases, where the list of premiums was not completed by us, either there was no competition, or we could not deem the unsuccessful competitors fully worthy of premiums.

ROBERT HADFIELD, *Buffalo.*
C. B. MEEK, *Canandaigua.*
VALENTINE H. HALLECK.

SAXONS.

Your committee on Saxon sheep cannot refrain from expressing their regret that so few of the Saxon wool growers in this State, have manifested their interest in this class of sheep by representing their flocks at this fair.

Samples from only four flocks were entered as competitors for prizes. While they take pleasure in awarding the premiums to those presented for their examination, believing they were justly entitled to them, they are also well convinced that a more extensive competition would awaken attention to this truly valuable class of sheep.

It is the opinion of your committee, that unless Saxon wool growers make some decided manifestations of the estimate in which they hold their sheep, that the wool growers of this State will neglect this class and supply their places with others, and thus leave this desirable style of wool to be grown by other States, as it is evident that a less quantity is now grown in this State than five years ago, while the demand is not lessening but increasing.

JAMES M. ELLIS,
H. BLANCHARD,
AUGUSTUS SANFORD, } *Com.*

FARM IMPLEMENTS.—No. 39.

Your committee would urge as an excuse for any mistakes that may occur, the hasty manner in which such a multitude of implements must necessarily be examined.

The committee would further remark, that they are directed to determine the best pump for farm use. As this is a question that interests about every farmer, and as different situations require different plans, some explanations are submitted. There is no middle aged man, but who has cases in mind of wells of water that were considered excellent as long as the old fashioned oak bucket was swinging in the curb, but after a pump being substituted the quality of the water became materially changed. Reasons have been assigned by some to be the pump stock standing in the water; by others, the top of the well being closed. Your committee are of the opinion that neither of these causes produce the change, but that the established principle that motion is the life of water has been interfered with, that the often-repeated action of the bucket served the purpose, but that the quiet action of the pump being substituted the change was apparent, therefore your committee recommend the chain pump when the pump can stand directly over the well, but where water is to be raised on an inclined plane, the force and suction pump is recommended.

The large quantity of farming implements on the ground by Mr. Emery, of Albany, by Mr. Thos. Foster, of Utica, by J. Ra-

palje, of Rochester, the latter, the most extensive assortment, contained many useful and important articles, the utility of which has been tested by many farmers in the State.

WILLIAM RISLEY, Chairman, *Fredonia.*
HENRY KEELER, *South Salem, Westchester.*
DAVID M. CROWELL, *Rome, Oneida.*

COMMITTEE UPON MACHINERY, &c., UNDER CLASS 4, NO. 40.

Would respectfully report: That there has been entered for their examination a large number of articles, and although not in priority upon the list, still they beg leave first to state, that the plow, an instrument so important and useful to the farmer, in numbers maintained a great preponderance. The improvement in this important implement, and one so indispensable to the agricultural interest, has in a measure kept pace with the spirit of the age. An observer who can cast his eye backward for a period of only forty years, and call to mind the farmer in those days with the huge point of a wrought iron plow, strung upon a stick across his shoulder, on his way to the nearest blacksmith to have it sharpened, and then at the moment returning, glance upon this article as to-day exhibited, manufactured and used, will be forcibly struck with the contrast, and the advantage which mechanical skill renders to agriculture, and we trust that mechanical genius will not relax its effort to make the *plow* approximate still nearer perfection. Among the great number exhibited, there was none entered claiming consideration for *new* principles or arrangements. The committee, however, take pleasure in saying that they found among those of Ruggles, Nourse & Co's manufacture, and marked and designated by them as numbers 73 and 73½, a principle they believe to be correct, and not heretofore in general use. These plows were constructed upon true mathematical principles, with the beam plumb and on a straight line with the land-side; the mold board upon a true lateral and vertical plane, making the pressure and wear equal upon both the land-side and mold-board, thereby preventing the speedy wear of the former.

Under entry no 65, there was exhibited manufactured drain tile and pipe, but no machine for its manufacture. The tile produced was manufactured at Clinton, Oneida county, by J. W. Gregory, and at a cost of from fourteen to forty-two cents per rod, varying according to size, of which fifteen different sizes were exhibited. The pipe varied also in price according to size, from $6 to $12 the hundred feet. Both these articles are from brick clay, hard burnt, and in the judgment of the committee, afford a cheap and durable article of much practical utility.

Under the same entry, number, and from the same material and manufactory, was presented "chimney tops" for smoky chimnies at a cost of $1.25. The construction is so adapted in the judgment of the committee, as to remedy at a trifling expense that great annoyance, a smoky chimney. The committee would recommend a premium to the manufacturer of these articles, of $5.

There was presented a specimen of drain brick, which can be made at any brick yard, and at a cost equal to ordinary brick, which will not exceed in expense the above mentioned tile, and of no greater advantage except the easy mode of manufacturing.

There was but a single specimen of platform scales for weighing hay and stock, examined by the committee. They were Fairbanks' patent, and although very correct and perfect for heavy weight, and some improvements to prevent friction and arrive at accurate results, still the committee cannot award to it a premium, as "being so arranged as to be readily removed."

There was exhibited a number of fine specimens of iron vases, greyhounds, lions, &c., from the manufactory of Janes, Bebee & Co., New-York. The workmanship was neatly and tastefully executed, meriting such award as the discretion of the Society may deem proper. (Medal awarded by committee.)

A hydraulic ram was entered upon the list handed the committee for examination, but they were informed that it was not upon the grounds.

A hydraulic press, in a very compact, simple and portable form, for raising heavy weight and exerting great pressure in the

least possible space, marked as entry No. 112. The committee would award to it a small silver medal. P. C. Curtis, Utica.

Entry No. 118, was a cast iron curb for chain pumps, which for cheapness of construction and some improvement to prevent an accumulation of ice in winter, and the stop or latch upon the wheel, the committee consider as the most perfect article of the kind presented, and worthy of the attention and patronage of the public. It is manufactured by Downs & Co. The committee would award for its superiority, a Diploma.

There was exhibited from the manufactory of Downs & Co., Seneca Falls, a number of superior iron pumps. The varieties were: 1st. Those styled 'suction, lift and force pumps,' combining the best quality of an ordinary pump, with the forcing power of a fire engine. 2d. The 'lifting pump,' simple in its construction, easily taken apart, seemed to the committee a very perfect article. 3d The 'double lifting pump,' for deep wells, a superior article, and well adapted for the purpose designed.

From the same manufactory was exhibited a very perfect specimen of a garden engine. There was some competition in this machine, but the one manufactured by Downs & Co. semed to the committee to be the most perfect in its arrangement and operation. For this machine as well as for the above mentioned pumps, the committee would recommend, a Silver Medal.

Entry No. 147, presented a model vertical and horizontal hay press. The first was low, portable, and exerted the pressure from both sides. They were both good models, and deserve public consideration. S. Dederick, Albany, Silver Medal.

Two stationary steam engines were examined, manufactured by D. A. Woodbury & Co., Rochester, N. Y. They deserved con sideration for compactness and superior mechanism, but no new principle was contended for. The committee can only recommend them as a very perfect and cheap article of the steam engine. There was no competition. Silver Medal.

Entry No. 122, was a dairy steamer, to generate steam for heating the milk, &c. It was capable of holding four pails of

water, and skilfully arranged both for safety and utility to the dairyman. It was provided in a very perfect and simple manner, with a safety-valve, try-cock and collapse valve. It is manufactured by J. A Bushnell, of Utica, N. Y., at a cost of $25 to the dairyman. It will heat the milk of 60 cows with facility, is portable in its construction, weighing in the whole including the heater, 300 pounds. (The estimation in which this steamer is held among dairymen not being furnished no premium is awarded.)

Coon's patent flexible fence, manufactured at Troy, N. Y., was exhibited under No. 127. It embraces a great variety of style and design, and the prices vary according to its plain or ornamental construction.

No. 128,was a specimen of iron farm fence for enclosing fields, &c. It was manufactured at the same establishment in Troy, and is furnished at different prices according to size of wire, $\frac{1}{4}$ inch wire varying from $1.50 to $3 per rod, including the straining pillars and all the intermediate compensating parts. The straining pillars are anchored two feet in the ground, and the wire fastened at the ends by a nut. The pillars are styled self-compensating in their arrangement, being so constructed that by the contraction of the wires they are brought nearer a straight line, and upon their expansion to their proper shape. The committee would award to this fence the premium of $10 and diploma, for its best adaption to practical and economical use.

The committee were called upon to examine a machine for splitting leather. It was entered as No. 64, class 8. This machine is manufactured by A. R. Northrop, of Deansville, Oneida co. N. Y., and in the opinion of the committee deserves special consideration. It possesses some very essential merits over other machines for this purpose, particularly the vibrating knife and feeding roller. This vibratory movement requiring less force to drive the leather through the machine, and obviating an unequal pressure upon the parts which are more or less elastic. It is deserving a Diploma.

The committee were also called upon by the president to examine the merits of a churn manufactured by George B. Clark, of

Leonardsville, Madison county, N. Y., known as the excelsior churn. It was entered in class No. 4. From the examination the committee gave it, they are disposed to call the favorable attention of the Society to this churn, but fearing that they may usurp the prerogatives of some other committee to whom the examination of this article properly belongs, and where there is competition, they will refrain from expressing their opinion as to a premium.

All of which is respectfully submitted.

F. B. TAYLOR,
F. A. STEBBINS,
A. WAGER.

Sept. 9th, 1852.

The following described machine was on exhibition, and deemed worthy of special notice, and the Society's Diploma awarded by the Executive Committee. Cochrane's machine for crushing, grinding and pulverising. E. & J. Bussing & Co, 32 Cliff-street, New-York.

THE DAIRY—Butter.

The exhibition of butter was quite extensive, and much of it of a character to sustain the high reputation which the butter of central New-York has attained in our country. It is a matter of regret, that all the dairymen in the State do not give that attention and care to the preparation of their butter which is shown by the successful exhibitors at the present fair.

The Society have felt a deep interest in the subject of proper dairy salt for the manufacture of butter, and have required of exhibitors to state the kind of salt used. Most of the competitors have complied with this requisition, and from their statements it appears that *six* use our own salt, manufactured at our salt works in Onondaga, and thirteen use Liverpool, Turks Island, or the Pacific refined salt. Of the nine persons who received the premiums on butter, four used our own salt and five foreign salt. This is evidence of the purity of our own salt, and whatever prejudice may exist among purchasers as to the quality of butter made from our own salt, the award of the very intelligent committee who passed upon the samples offered, some of whom are engaged largely in the purchase and sale of butter in

New-York, is gratifying evidence that as good butter can be made, when our own best salt is used as from any other. One of the successful competitors remarks "that he has used different kinds of salt and finds *none better* than the *Onondaga*, if you get the best."

The following notice of a trial of our salt by the government, shows the same result:

Washington, *Jan.* 30, 1853.

It is known to the public that the Secretary of War a year ago ordered experiments to be made in packing pork, to test the relative qualities of Onondaga solar salt with Turks Island. Each hog was cut in two on the back, and one half packed with Onondaga solar and the other half with Turks Island salt, the same quantity of each kind of salt being used in each case, and packed in barrels of the same quality. In short the treatment of each kind throughout was the same in all particulars. This pork has been packed for more than thirteen months, and a few days since I saw some of it opened, and it was impossible to discover any particular difference between the two kinds of salt, or to see any difference in the quality or preservation of the meat.

This pork was put into barrels numbered from 1 to 100, the odd numbers being of one kind of salt and the even numbers the other. They were sent out, one of each kind, to every military station throughout the United States, with instructions to be opened after a given time, and certain tests of the meat to be made by a board of officers under the direction of the officer in command. Many of these reports have been received at the Commissary's office, and yesterday I took occasion to examine them. The result is that it is almost impossible to discover any difference. The greatest is in the loss of weight, after being boiled for an hour and a half. As a general thing, there is more loss in weight in that salted with Turks Island than with the Onondaga solar salt. In most cases the meat is represented as being uncommonly good. The result of this experiment thus far is a full vindication of the quality of the Onondaga solar salt,

and shows beyond a question that it is fully equal, in all respects, to the best Turks Island brought to this country for packing purposes.

The judges on butter were, T. B. WHITE, New-York ; LEWIS RAYNOR, Madison ; RODGER BAMBER, Herkimer.

There is nothing in the statements of the manufacture of butter, the present year materially different from those recorded in the previous volumes of our Transactions.

The following statement of the butter made from a *native* cow belonging to the Rev. D. Skinner, of Deerfield, Oneida Co., in one week, on ordinary pasture, shows a very creditable yield of butter, not often equalled:

"The butter exhibited was made during the first three weeks in June, from one cow, (native,) the only one I keep for family use, (though over thirty are kept on my farm by my tenant.) She was raised on my farm, and is eleven years old. She is kept on hay with a few roots in winter and on grass alone in summer During the last season I weighed her milk for seven consecutive days, and it averaged a little over 53 lbs. and 3 oz. per day, and we made from it during the week, exclusive of all the new milk and cream we used in our family of six persons, (and we always use both very freely,) fourteen lbs. of butter."

"D. SKINNER."

The practice of our best dairymen varies as regards the use of cold water in working the butter. They are about equally divided, and among those who received the premiums for the last four or five years the practice differs, thus affording, so far as their practice goes, evidence that first rate butter can be made both by using cold water and without.

The usual quantity of salt used is one ounce to the pound, thoroughly incorporated with the butter. The butter when packed, is covered with a cloth and an inch or more of dry salt to thoroughly exclude the air; and butter thus

packed, when the same has been thoroughly freed from the milk and water, when water is used, will keep pure for any desired period in our climate. When needed for use in California and other warm latitudes, the kegs are packed in large casks, and filled in with dry salt, and thus secured, our butter has been opened after being packed for years, in perfect condition.

When it is recollected that butter thus carefully prepared is worth from six to ten cents per pound more than the ordinary butter of the country, it is a matter of surprize that so many of our dairymen still continue the practice of preparing their butter with little care and without any benefit derived from the experience of those who have secured yearly not only a ready market, but extraordinary prices for all the proceeds of their dairies.

It is encouraging, however, to be assured, that the efforts of the Society to improve the character of our dairies has been successful to a very large extent, and that every year adds to the number of our dairymen whose butter takes a place in the first rank. There is scarcely a county in our dairy districts in which may not be found quite a large number of dairies which command in market, from the character of the dairies alone and without examination even, the very highest price paid for butter.

If the labors of our Society had been productive of no other beneficial results than those in this department, it is not too much to say that the increased price obtained for our best butter has secured to the farmers of this State a sum more than equal to all the expenses that have been incurred in the promotion of agriculture. But when we add to this the improvement which has taken place in the manufacture of cheese and the very large increase in quantity per cow, the sum swells to an amount that is most gratifying, testifying, as it does, in a manner that cannot be denied, to the great advantages which have resulted to our State by the exertions of the State and county organizations. But if the producer has been largely benefited by the increased price he has received, so also has the consumer been most richly benefited in the superior article which has been furnished him, and which contributes so materially to the comfort of his household.

We have encouragement then in this department for renewed efforts to stimulate our dairymen to increase their efforts not only in the methods of manufacture of butter and cheese, but also to more care in the selection of animals that will not only give the largest yield, but also the finest quality of the products of the dairy.

Cheese.

The number of competitors on cheese was much larger than on butter, but it is a matter of regret that the liberal offers of the Society for county and town premiums only elicited competition from two counties and two towns. It is probable that the practice of selling the dairies to agents from the cities on the sea board, who remove much of the cheese as soon as it is sufficiently cured to transport to market, is one of the main reasons of this want of competition; and although it is very desirable that samples of our best dairies should be exhibited in sufficient quantities to give a fair criterion to judge of the excellence of our dairies, still, if the liberal premiums offered will not secure this, some other disposition of the amount appropriated for this purpose may be deemed advisable.

The very able committee on cheese, consisting of John A. Sherman, of Jefferson county; Abraham W. Leggett, New-York; C. L. Kiersteed, Greene county; Lyman H. Babbitt, Wyoming Co., reported, That they examined *fifty-eight* samples in their respective classes.

County Premiums.—The committee regret to report that the competition for the very liberal premium offered to the different counties through the State was so small, *two* counties only having competed for the prize, viz., *Lewis* and *Jefferson*.

The six dairies from Jefferson were on the ground the first day, according to the requisitions of the Society.

The competitors from Lewis were also on the ground at an early hour, but not fully understanding the requirements, only appeared with two cheeses from the different dairies; but, with most commendable zeal they immediately sent to the different

dairies through their county, a distance of some one hundred miles, and procured the required number in time for the examination by your committee. And well were they repaid for their exertion, your committee unanimously awarding to them the premium of *fifty dollars*.

The principles by which your committee have been governed in the award of the above premiums is, first, their superior quality, and secondly, their uniformity.

It is, however, due to the competitors from Jefferson county to remark, that a portion of their cheese was of a most excellent quality, and the sample from one dairy being superior to any one sample exhibited from Lewis; but altogether the samples from Lewis possessed those combined qualities which entitle them to the reward, viz., solidity and firmness of texture, richness of quality, and that *clean mild flavor* which is so important in the sale of this increased article of consumption.

The dairymen who exhibited the cheese to which the county premium was awarded are Edwin Pitcher, Martinsburgh; David Pitcher, do.; Moses B. Pitcher, do.; William George, do.; Warren A. Peebles, do.; L. D. Mason, do.

TOWN PREMIUMS.—The competition on town premiums was also limited, only two towns competing; and your committee were governed by the same principles as mentioned in regard to county premiums.

A premium of $20 being awarded to Duane Richardson, Warren Richardson and Jeremiah Tanner, of Schuyler, Herkimer county.

OLD CHEESE.

The competition in old cheese, over one year old, was quite fair, and the cheese mostly of good quality.

NEW CHEESE, LESS THAN ONE YEAR OLD.

In new cheese, less than one year old, the competition was quite spirited and the competitors numerous, from different parts of the State, and generally of very fair quality. Some samples, it is to be regretted, however, too poor to offer either for competition or sale.

CHEESES WEIGHING OVER FIVE HUNDRED POUNDS EACH.

Your committee also with pleasure report, that two very superior cheeses, both in quality and appearance, weighing together *over one thousand pounds*, were exhibited by Jesse Williams, of Rome, Oneida county.

The samples, weighing over 500 lbs., each stood erect and in as perfect shape and condition as a cheese not weighing over 50lbs., and upon examination proved of most excellent quality, having cured as thoroughly as those of smaller size and same age. A special premium of $25 is recommended to Jesse Williams, of Rome, Oneida county, for this fine production of the dairy, which was an ornament to the show and very creditable to him as a dairyman.

Method of manufacturing the two large cheese, (over 500 lbs. each,) by Jesse Williams, Rome, Oneida county.

These samples of two large cheese, offered for exhibition by the subscriber, were made on the 13th and 17th July, from the milk of about 200 cows; two milkings, without the addition of cream. The process as follows: The night's milk was strained into two tin vats, placed within two wooden ones, with a cavity of one and a quarter inches between, into which cold water was introduced at one end and discharged at the other, at an elevation sufficient to float the tin vats, and kept running thro' the night, stirring the milk occasionally until cooled to about sixty degrees. The morning's milk being added, the temperature was raised to eighty-five degrees, when a small quantity of annatto and sufficient rennet to coagulate the milk in about fifty minutes were added, and the vats covered with cloth to retain the heat. When sufficiently hard, the curd was cut into squares of one and a quarter inches and allowed to stand until the surface was covered with whey, when it was gently broken with the hands; at the same time the temperature was raised to about ninety-five degrees, by forcing steam into the water between the vats; when the curd was made fine it was allowed to settle, and the whey drawn from the surface with a syphon, when it was again broken with the hand and the heat raised to ninety-eight or a hundred

degrees, and kept at that temperature, being stirred occasionally to prevent packing until sufficiently hard for the press, when it was dipped into the sink, drained and salted, with three pounds Ashton's Liverpool salt to 100 lbs. curd. Pressed forty-eight hours in a screw press, being turned once and bandaged in the time. Then removed to the cheese-house, greased as often as necessary to prevent cracking, and turned and rubbed daily. The rennet, when taken from the calf, was cleaned of its contents, salted and stretched on a stick to dry, and when wanted for use, soaked in strong brine until the strength is well drawn and the liquor only used.

SWISS CHEESE.

This article is being manufactured in various parts of our country, and is supplanting to a considerable extent the imported article. Two cheese, weighing fifty pounds each, were exhibited at the fair by Gilgian Egger, of Annsville, Oneida county, a Swiss farmer, who is deriving a very handsome profit from his cheese. It sells readily in New-York market, for sixteen cents per pound.

Mr. Egger's method of manufacturing Swiss cheese.

The two cheese exhibited, were made from two milkings *of twenty cows*. No addition was made of cream. The cream was taken away from one milking of one of the cheeses. One pint of rennet to fifty pounds of cheese, of strength so that one teaspoonful thickens half a cup of milk. I blow up the rennet like a blister, so it will dry quick, then take a little piece every day and soak that three days, (not over that.) I press it as quick as possible after it is made. I use the common salt, of any description. I set the milk at eighty-two degrees, Fahrenheit's thermometer. The curd is broken very fine. I scald the curd at 120 degrees of the thermometer. After the cheese is pressed, it is put in cold spring water for five or six hours. *No salt* is put in the curd, but it is salted on the top after it is made, through the summer, until it is four or five months old. It requires from four to five quarts of milk for one pound of cheese.

REPORT

OF COMMITTEE ON NEEDLE, SHELL, AND WAX WORK.

Your committee have had in charge that portion of the exhibition which represents the skill and industry of the ladies of New-York. A very great variety of useful and ornamental work, (the production of home industry,) has made it a difficult task to come to a right decision.

From the common patch-work quilt, to the embroidered spread; work in beads, in thread, in silk and in worsted; needle work for all uses, in all shapes, and of all kinds; flowers; caskets and cases in shell and wax, we have found, in every class, articles most beautifully wrought, some of which were worthy of those days of needlecraft when the dainty fingers of queens wrought tapestries for the palace.

To all the exhibitors we tender our thanks, for so much of excellence and so little subject to blame. It is not out of our just province, as your committee, to speak well of the handicraft of women. Needle work and its kindred pursuits are not useless accomplishments, they are not mere genteel ways of spending the gude man's "siller," but belong to all art, venerable for antiquity, older than painting; they date back to the days of Patriarchs, and we may believe, are heir-looms which mother Eve gave to her daughters.

History tells us of the skill of Jewish maidens. Its high artistic effect may be known from the fact, that needlework was the crowning decoration of the tabernacle, and also of the dress of the high priest Aaron; poesy has sung its honors and even mingled its praises with the holy song. "She shall be brought unto the king in raiment of needlework. PSALMS, XLV. 15."

Even Solomon withholds not praise from the wife "who layeth her hands to the spindle, and whose hands hold the distaff," even rejoicing that "she maketh herself coverings of tapestry."

In days gone by, it was deemed "right noble work," and many an English and French queen became a teacher of embroidering to maidens of her household. But we need not tell of the Gobelin tapestry of France, or the dainty work of our Norman and Saxon dames, our exhibition speaks for itself and vindicates its worth; we may be permitted to rejoice, that your society cares for an art which was a household treasure in the past, and express the hope that a land which finds noble blood in every home, shall also find queenly work the product of their industrious hands.

All of which is respectfully submitted,

CORNELIA D. MILLER,
MARY E. WAGER,
ELIZABETH WAGER,
ANTOINETTE HUNTINGTON,
PHOEBE E. SMITH,
RACHEL M. THOMAS,
MARY WOLCOTT,
MARY G. HARISON,
ELIZABETH W. WAGER,
EMILY S. MILLER.

REPORT OF COMMITTEE—CLASS 8, No. 65.

DISCRETIONARY.

Your committee report that they have endeavored to do justice to all parties concerned, but from the number of articles to which their attention has been called, and the different materials used in their structure, the time allowed was not sufficient to give them that close examination to which many of the articles brought to their notice were entitled, consequently a full description of the articles with their qualities is not fully set forth in this report.

The exhibition in this department has been highly satisfactory to the committee. A great majority of the articles exhibited show a perfection of workmanship and finish, it would be difficult indeed to excel.

Johnson & Goodell, New-York, a large assortment of American porcelain, the manufacture, workmanship and finish of which is far superior to anything of the kind your committee have seen of American manufacture, and are of opinion that the articles on exhibition here will favorably compare with any thing of the kind imported. Silver Medal.

Elisha Waters, Troy, New-York, Case of atmospheric breast cups and cupping instruments; the peculiarity of the instrument consists in exhausting, (when applied to the surface) a sufficient quantity of air to allow the milk or blood to flow freely, and when skilfully applied, it being elastic, as the glass fills with fluid the air is expelled in the same quantity, making a continued even pressure upon the surface, which cannot be done with the common air pump. The ease with which it is applied, and manner in which it operates, far exceed any instrument of the kind known to the committee, and they feel warranted in recommending said instrument to all persons who may have use for instruments of the kind. We award a Silver Medal and Vol. Trans.

Charles P. Davis, Utica, Stained window glass; the glass has various shades, neatly executed, and in the opinion of your committee holds a prominent place among the many fancy articles of the day. We award a Diploma.

Henry Basto, New Hartford, Oneida Co., New-York; samples of Cotton Rope; your committee find it well manufactured, from a good material, and the beauty of the article exceeds those manufactured from hemp or flax, and it is believed for many purposes is far preferable. We award a Diploma.

P. D. May, Utica; Penmanship and Card writing; a great variety was presented to the committee, which for neatness and elegance of style, would favorably compare with any other production of the kind known to your committee; many specimens were very beautiful, showing a high order of talent in the art of penmanship. We award $5 and Diploma.

Owens & Newland, Utica; Marble monument and other specimens of their mechanical skill; the ornamental work and letter-

ing were done in a superior style, and the polish and elegant finish attracted the particular attention of the committee. We award a Diploma.

CHARLES CABLE & SON, Poughkeepsie; Mineral water; an article of superior quality put up in elegant style, the committee are of opinion that the article when examined, would sufficiently commend itself to all persons who are accustomed or may be disposed to partake of this kind of beverage. We award Silver Medal.

JM. STOCKING, Utica; case of Hats and Caps, made in a good style, and the quality fair; the exhibition was highly creditable to the manufacturer. We award Vol. Trans.

F. W. BUCKINGHAM, Remsen, Oneida Co.; twelve sides finished kip Leather; received the favorable consideration of the committee. We award Vol. Trans.

A. OSBORN, Watervliet, Albany, Wind Mill, constructed on a new principle, the shaft standing vertical; the wind that moves the wheel comes from below and passes up through the wheel, instead of coming directly upon it in a horizontal position, as in the former construction of the wind mill. We award Vol. Trans.

H. T. SHELDON, Buffalo, Oil water-proof Blacking. We award Diploma.

C. F. CROSSMAN, Rochester, 4 rolls Cloth Belting. Vol. Trans.

PECK & BANGS, Clinton, Oneida county, Calf Skins dressed. Vol. Trans.

E. W. FITCH, Litchfield, N. Y., Mineral Paint, well manufactured, and in the opinion of the committee it is valuable and will take the place of more expensive materials. Vol. Trans.

CURTIS COE, Springport, N. Y., Fruit Seperator. Vol. Trans.

PECK & BANGS, Clinton, Oneida county, 4 sides Top Leather, finished in a beautiful manner, highly creditable to exhibitor. We award Diploma.

Isaac S. Bronson, Amsterdam, N. Y., lot of fancy wired Broom Brushes. Vol. Trans.

G. H. Lamberton, Waterville, Oneida county, 2 Plants of Tobacco. Vol. Trans.

J. T. Johnson, New-York, Chemical Erasive Soap and patent Starch polish. Vol. Trans.

McDougal & Fenton, case of Boots and Shoes, for the neatness, elegance of style, and the superior fancy work displayed by the manufacturer, the committee are induced to believe they are fully warranted to award the 1st premium of $5.00 and a Diploma.

Samuel Gardner, New-York, Magnetic Seperator gold washer. Award Diploma.

Palmer & Co., Springfield, Mass., improved Artificial Leg. The committee are of opinion that this is the best substitute for the natural limb, that has ever met their observation. It very nearly resembles the natural limb in form and general appearance, has the various motions as nearly as can be expected from any artificial machinery, and can be used with perfect ease by those who have had the misfortune to loose a limb. We award Diploma.

White & Metcalf, Utica, case of Dentistry. This case contained several articles manufactured in good style, and apparently of good material, among them several full sets of teeth of superior workmanship.

The committee had an opportunity to examine them adjusted to the mouth of the person for whom they were intended, they seemed to be used with perfect ease and without the least inconvenience, and were a very good imitation of nature. We award a Silver Medal.

William O. Laird, Floyd, case of Dentistry. We award a Silver Medal.

Blakeslee & Swartwout, Utica, case of Dentistry. The specimens presented by Drs. Blakesly & Swartwout were of good substantial workmanship, appeared to be fitted for service, and from the perfect adaptation in the mouth of the patient for whom they were designed, and which the committee had the opportunity to inspect, they were creditable to the manufacturer and the profession. We award a Silver Medal.

AMBLER & AVERY, New-York, case of Dentistry. A large number specimens, in the opinion of the committee, were manufactured more for show than for actual use. But, in consequence of the number and variety of the articles, the committee think themselves warranted to award a premium. A Silver Medal.

VERNON POTTER, Utica, Sewing Machine. We award Vol. Trans.

ALLEN B. WILSON, Conn., Sewing Machine, called "Patent Sewing Lathe." It is a very ingenious piece of mechanism, and sews with great rapidity, performing as much sewing as several hands could do in the same length of time, the stitching is performed with an accuracy which cannot be attained in the ordinary way by hand, and the committee are of the opinion that it will, when brought to a more perfect state, supercede the common use of the needle. We award a Silver Medal.

BENJ. H. SHAW, Canal-st., N. Y., beautiful Ladies' Shoes. Diploma.

Boy of Linus Pardee, West Edmeston, Toy Wagon, very handsomely made. $2 00.

CLARK & GILLMAN, Rochoster, Hat bodies, very superior. Diploma.

RRADFORD ROWE, Albany, Leather Stretcher, a valuable article. Diploma.

All of which is respectfully submitted,

SIMEON SNOW, *Chairman.*

ANNUAL MEEETING,

FEBRUARY 9, 1853.

The Annual Meeting of the New-York State Agricultural Society was held at the Assembly Chamber.

At 12 o'clock the Society was called to order by B. P. Johnson, the Secretary of the Society, who stated that the President of the Society, Mr. Wager, was absent in Florida, on account of ill health.

On motion of Mr. Johnson,

Hon. J. P. Beekman, Vice-President, was called to the chair.

The report of the Executive Committee was then read by the Secretary of the Society.

Mr. Monroe moved to have the report referred back to the Executive Committee, for the purpose of having struck out of the notice of Kossuth, all after the word President; which was as follows:

"The resolution in relation to Gov. Kossuth was duly attended to on behalf of the Society, by the Secretary, in the unavoidable absence of the President; and the proceedings were of a most interesting character: Gov. Kossuth expressing himself highly gratified at this unexpected notice from the Society, assuring those present that nothing had given him greater pleasure since he had been in this country; calling to mind so vividly his country, and leading him to hope that the desire of his heart might be gratified, when his countrymen might be permitted to enjoy, as did our citizens, the opportunity of engaging in peaceful pursuits, and cultivating their own soil, without any to molest or make afraid."

Mr. Johnson stated, that what had been done by the Executive Committee, had been done in compliance with the express direction of the Society.

Mr. Faxton seconded the motion made by Mr. Monroe.

Mr. Burroughs moved to lay the question of agreeing with the report of the committee on the table, and the motion prevailed.

The annual report of the Treasurer was then read as follows:

1852.	RECEIPTS.		
Jan.	Balance from last year,.....		$4,544 14
	Cash members, annual meeting,.....		120 00
	Life member, Horatio Seymour,.....		10 00
	" William Kelly,.....		10 00
	" Wm. B. Campbell,.....		10 00
	" George Dickey,.....		10 00
	Tickets sold, winter exhibition,.....		38 75
May,	From State Treasurer,.....		700 00
Aug.	Members at Geneva trial,.....		35 00
Sept.	Fair Utica, Badges,.....$5,175 00		
	Tickets,..... 2,931 78		
	Premium lists,..... 8 63		
	Life member, G. Geddes 10 00		
			8,125 41
Oct.	Members,.....		2 00
1853.			
Jan.	Life do., Ledyard Lincklaen,.....		10 00
	Received for interest on invested funds, ...		412 06
	Temporary loans,.....		1,969 83
	Mohawk bonds,.....		3,000 00
			$18,997 19
	Balance due Treasurer,.....		75 71
			$19,072 90

EXPENDITURES.

By premiums paid,.....	$6,354 26	
Expenses fair at Utica,.....	2,014 91	
Expenses of county surveys,.....	439 00	
Trial of implements at Geneva.....	733 08	
Library and museum,.....	461 13	
Postage,.....	219 10	
Incidental expenses,.....	318 49	
Miscellaneous,.....	675 48	
Salaries, traveling expenses, &c,,.....	2,640 93	
Printing, advertising, &c ,.....	234 35	
Expenses of fair of 1851,.....	877 67	
" of winter meeting,.....	104 50	
Loan account,.....	4,000 00	
		$19,072 90
Invested funds,.....	$6,000 00	
Medals and premium plate,.....	165 00	
		$6,165 00

On motion of Mr. Corey, ordered that said report be accepted.

Mr. H. C. White, of Monroe, moved that the delegates from each district select three members of their delegation, as a committee to nominate the officers of the Society.

The following names were selected and appointed:

From the First—Russell Smith, Richard L. Allen, Charles M. Saxton.

From the Second—S. S. Smith, E. S. Sutherland, William Kelly.

From the Third—J. P. Beekman, E. P. Prentice, George Vail.

From the Fourth—James M. Cook, J. T. Blanchard, Le Roy Mowry.

From the Fifth—Eli Merriam, T. S. Faxton, Harvey Baldwin.

From the Sixth—W. W. Jackson, H. P. Potter, F. Rotch.

From the Seventh—John Delafield, William Buell, Joseph Watson.

From the Eighth—Theodore C. Peters, Lewis F. Allen, Silas M. Burroughs.

A communication was received from the Rensselaer County Agricultural Society, tendering the use of their grounds and fixtures to the State Society, for its Annual Fair.

On motion of Mr. PETERS, ordered laid on the table.

And then the Society adjourned to 7 o'clock, P. M.

SEVEN O'CLOCK, P. M.

The Society met, and JAMES MONROE, Vice-President, was called to the chair.

Mr. DELAFIELD, from the committee on nominations, reported, recommending the following gentlemen for the offices designated.

President—LEWIS G. MORRIS, Westchester.

Vice-Presidents—1st district, RICHARD L. ALLEN; 2d do, WILLIAM KELLY; 3d do, GEO. VAIL; 4th do, John BEEKMAN FINLAY; 5th do, GEORGE GEDDES; 6th do, R. H. VAN RENSSELAER; 7th do, JOEL W. BACON; 8th do, SILAS M. BURROUGHS.

Corresponding Secretary—B. P. JOHNSON, Albany.

Recording Secretary—ERASTUS CORNING, jr.

Treasurer—B. B. KIRTLAND.

Executive Committee—THEODORE C. PETERS, J. T. BLANCHARD, WILLIAM BUELL, CHARLES MORRELL, JOHN A. SHERMAN.

On motion of Hon. T. C. PETERS, the Society proceeded to ballot for the officers, in conformity with the Constitution of the Society, and the officers named in the report of the committee were duly elected.

Mr. COREY moved to request the Executive Committee to locate the next Annual Fair at the village of Saratoga Springs; provided the citizens of that place comply with the terms presented by the Society to the citizens of Utica, as the same were arranged at the last Fair.

Motions to amend by substituting, in the place of Saratoga Springs, Utica, Syracuse, Lansingburgh, were also made.

Mr. Gould moved to lay the resolution on the table, and the ayes and nays being ordered, the motion of Mr. Gould prevailed, ayes 65, nays 43.

Mr. Butterfield moved to refer the subject of the location of the State Fair to the Executive Committee, to report immediately.

Mr. Blanchard moved that the committee on nominations do re-assemble, and recommend a location to the Executive Committee, which motion was accepted by Mr. Butterfield in place of the motion made by him.

After debate, this motion was withdrawn,

And Mr. Butterfield renewed the motion made by him,

And on motion of Mr. Gould, this motion was laid on the table.

Mr. White proposed the following amendments to the Constitution:

Sec. 2. The officers of this Society shall consist of an Executive Committee, which may be known as the Board of Agriculture, to be composed of one member from each Senatorial District in the State.

The term of service of one-half of the number to expire at the end of one year, and that of the other half at the end of two years; the number so expiring to be elected in each year after the first, to hold office two years.

The Executive Committee to be chosen at the Annual Meeting of the Society, which shall, for this purpose, consist of the President of, or one delegate from each County Agricultural Society in the State.

The Executive Committee, when chosen, shall, from their own number, elect, each year, a President, one Vice-President, a Treasurer, a Corresponding and Recording Secretary.

Mr. White moved to refer this to a select committee of five, for their examination, and to report thereon at the next Annual Meeting of the Society.

On motion of Mr. Geddes, this motion was laid on the table.

On motion of Mr. GEDDES, the following amendment to the Constitution was adopted, by a vote of two-thirds:

"This Constitution can be altered by a vote of two-thirds of the members present at any Annual Meeting, upon one year's previous notice in writing."

Ayes 67; noes 10.

Mr. WHITE, of Monroe, gave notice, that at the next Annual Meeting he will propose an amendment to the Constitution, embracing the subject presented by him, as recorded in the journal of the proceedings of this day.

Mr. BUTTERFIELD moved to refer to the committee on nominations the subject of a location for the next Fair, and that, for this purpose, the said committee are hereby re-organized.

Mr. HARMON moved to lay this motion on the table, which was lost,

And then the motion of Mr. BUTTERFIELD prevailed.

The Report of Professor COOK, on the Preservation of Meats, was read.

On motion of Mr. Corey,

Resolved, That the thanks of the Society be presented to Professor Cook, for the valuable report on the subject of the Preservation of Meats.

Mr. Delafield reported that the committee of twenty-four do recommend the village of Saratoga Springs, as the place of holding the next annual fair, provided the citizens of said village comply with the requisitions of the Executive Committee.

And the report was accepted by the Society.

On motion of Mr. Monroe, the Society then proceeded to consider the report of the Executive Committee; and the question being on the motion made by Mr. Monroe, to recommit the report of the Executive Committee, for the purpose of striking out so much as relates to Governor Kossuth, pending the discussion, the Society adjourned.

State Agricultural Rooms, Feb. 10, 1853.

Society met, Hon. J. P. Beekman in the chair.

The question pending before the committee, being on the motion of Mr. Monroe to recommit the report of the Executive Committee;

Ordered, that said report be recommitted.

The reports of the several committees were then presented and accepted.

Mr. E. Comstock offered the following preamble and resolutions:

Whereas, the Annual Exhibitions of this Society have, for several years, been steadily and rapidly increasing, both in the display of articles for exhibition, and the attendance of farmers and others, induced by the interest which such a collection can not fail to excite in this great State; and whereas, the annual expense which must be incurred, in the preparation for a show of such magnitude, and the attendance of so many thousands of persons, is becoming so large as to be onerous, whether borne by the Society or by the citizens of the towns in which the exhibitions are held; and whereas, it is believed by many members of the Society, and especially by the exhibitors at our annual fairs, that the convenience of the masses who attend the shows, and the safety and comfort of the animals, and the proper protection of the articles exhibited, require more permanent fixtures and more perfect arrangements than can be provided for at a single exhibition, without a great sacrifice of time and money:

Resolved, That a committee, to consist of one member from each judicial district in this State, be appointed by the Chair, to whom shall be referred the subject matter embraced in the foregoing preamble, with instructions to report to the Society, at its next annual meeting, upon the propriety of a location, for a term of three, five, or more years, of the annual exhibition, and the erection of more permanent structures and fixtures therefor, or for such other plan as they may deem beneficial.

The chairman appointed on the committee, Shepherd Knapp, New-York; T. B. Arden, Putnam; Anthony Van Bergen,

Greene; John McDonald, Washington; E. Comstock, Oneida; P. Barber, Cortland; William Buell, Monroe; and Hugh T. Brooke, Wyoming.

The report of the Executive Committee was again presented with amendment as proposed, and adopted.

Paris Barber, Cortland, offered the following resolution:

Resolved, That it shall be the duty of Vice-Presidents of the State Society to attend the county cattle shows and fairs, in the districts in which they are located; and in case they cannot attend, that they procure a substitute; and make a report of their proceedings to the Executive Committee.

(We trust that arrangements will be made by county societies to aid and facilitate their labors.)

Adjourned to 7 p. m.

Seven O'clock, P. M..

The Society met at the Assembly Chamber.

The President elect, Lewis G. Morris, was introduced to the society, by J. P. Beekman, and delivered an appropriate address.

The annual address of the retiring President, Henry Wager, (he being absent by reason of indisposition,) was read by J. A. Corey.

On motion of Mr. L. F. Allen, ordered that the address be printed with the Transactions of the Society.

On motion of Mr. L. F. Allen,

Resolved, That the thanks of the Society be given to Henry Wager, late President of the Society, for the faithful and energetic services he has given to its interests, during the period of his administration; and they fervently hope that he may soon return to us with restored health, and long continue in the elevated sphere of usefulness which has characterized the past years of his life.

On motion of Mr. E. Comstock,

Resolved, That the thanks of this Society be unanimously tendered to the officers of the Society for 1852, for the distinguished ability and untiring industry with which they have severally discharged their responsible duties during the year.

Hon. John A. King was requested by a vote of the Society, to report the proceedings of the National Agricultural Society, at their recent session at Washington.

In conformity with this request, Mr. King gave an account of the proceedings of the society at the annual meeting at Washington.

On motion of Mr. J. A. King,

Resolved, That the Transactions of this Society be, from time to time, transmitted to the Secretary of the U. S. Agricultural Society, at Washington, who will transmit in return to this Society, copies of its proceedings and journal.

On motion of Mr. L. F. Allen,

Resolved, That the thanks of this Society be tendered to Benjamin P. Johnson, the late agent of the State of New-York, appointed by the Governor thereof, to the late World's Fair, held in London in the year 1851, for his efficient services in the discharge of his duties appertaining thereto, and in promoting, as he did, the important interests of the people, not only of this State, but of the people of the United States, in their industrial pursuits; and that this Society recognize that to Mr. Johnson, as much, if not more than any other gentleman from the United States, are we indebted for the high credit which the exhibition of American implements attained among those of older nations in competition for superiority, in the severe trials to which they were subjected; and this Society also expresses its thanks to Mr. Johnson, for the valuable report which he submitted to the Executive of this State, and published in the Transactions of this Society for the year 1851.

On motion of Mr. Sherman, of Jefferson,

Resolved, That a committee be appointed to prepare resolutions, expressing the wishes of the State Agricultural Society, in favor of an Agricultural school.

Ordered, That Mr. Sherman, of Jefferson; J. P. Beekman Columbia; and E. P. Prentice, Albany, with the President and Corresponding Secretary, be said committee.

On motion of Mr. Delafield,

Resolved, That the thanks of the Society be most respectfully tendered to the House of Assembly, for the use of their hall for the Annual Meeting of the Society.

And then the Society adjourned, *sine die*.

RECEIPTS AT ANNUAL MEETING AND EHHIBITION.

Life members,.....	$ 60 00
Members,.....	178 00
	$238 00
Received at Exhibition,.....	164 39
	$102 39

AWARDS OF PREMIUMS MADE FEBRUAURY, 1853.

Butter dairy buildings.—Horace Clapp, Houseville, Lewis county, Silver Cup, $50.

Draining.—1. Robert J. Swan, Fayette, Seneca county, Silver Cup, $20.

FIELD CROPS.

Winter Wheat.—1. Ira Apthorp, Riga, 53.9-60 bushels per acre, $20.

Spring Wheat.—1. Charles W. Eells, Westmoreland, Oneida county, 30.31-60 bushels per acre, $20.

Oats.—1. E. M. Bradley, East Bloomfield, Ontario county, 93½ bushels per acre, $15.

2. Calvin Pomeroy, East Bloomfield, Ontario county, 87. 2-10 bushels per acre, $10.

3. Benj. Enos, De Ruyter, Madison county, 75. 9-32 bushels per acre, $6.

Barley.—1. A. Gurnee, Watertown, Jefferson county, 282 bushels on 4.27-100 acres of land, $15.

2. David Hess, Fenner, Madison county, 128. 46-48 bushels on 2.15-100 acres, $10.

3. R. S. Ransom, Fenner, Madison county, 104¼ bushels, or 2.19-100 bushels per acre, $6.

4. Benj. Enos, De Ruyter, Madison county, 108. 30-48 bushels on 4. 4-10 acres, Transactions.

Buckwheat.—1. Wm. P. Coonradt, Brunswick, Rensselaer county, $10.

2. David Coonradt, Rensselaer county, $8.

The sample of Wm. P. Coonradt, far exceeded the other in quality.

Beans.—Jeremiah Parker, Watertown, Jefferson county, 41 bushels on 1.1-10 of an acre, $10.

Potatoes.—1. Peter Crispell, jr., Hurley, Ulster county, 554 bushels on 1.17-100 acres (Yam potatoe,) $15.

2. Jeremiah Parker, Watertown, Jefferson county, 410 bushels on 1.4-100 acres, $10.

Seedling potatoes, by Volney Burgess, Chatham; and fine seedlings, by C. E. Goodrich, Utica.

Ruta Baga.—No statement complied with the rules of the Society.

Carrots.—N. & E. S. Hayward, Brighton, Monroe county, 600 bushels on 55-100 acres, $80.

Flax.—1. Benjamin Aikin, Pittstown, Rensselaer county, 23⅓ bushels flax seed, 445 pounds flax, on 1.16-100 acres, $10.

Clover Seed.—Frederick N. Tobey, East Bloomfield, 30⅜ bushels on six acres and 100 rods, $5.

FRUITS.

Pears.—Ellwanger & Barry, Rochester, large Silver Medal.

Apples.—Ellwanger & Barry, Diploma, Downing's Fruits.

T. G. Yeomans, Walworth, Barry's Fruit Garden.

J. H. Watts, Rochester, Thomas on Fruit.

A. Frost & Co., Rochester, Downing's Fruits.

John S. Goold, Albany, Pears and Grapes, Barry's Fruit Garden.

P. Barber, Homer, Apples, Diploma and Downing's.

Charles Kingsbury, Homer, Thomas on Fruit.

N. & E. S. Hayward, Brighton, Monroe, Diploma and Downing's.

Wilson, Thornburn & Teller, Thomas.

Isaac Merritt, Penfield, Thomas.

F. W. Lay, Greece, Downing.

Robert H. Brown, Greece, Diploma and Downing.

Hart Massey, jr., Watertown, Jefferson county, Downing's Fruits.

J. J. Thomas, Macedon, Wayne county, Diploma and Barry's Fruit Garden.

Six different varieties of apples, from N. Crittenden, jr., Secretary Tompkins County Agricultural Society, arrived too late for the Exhibition; they were very superior—Diploma and Barry.

Apple Jelly.—Prepared by Mrs. I. Denio, of Rome, Oneida county, a most superior article and worthy of attention—Small Silver Medal.

Isabella Wine.—By Volney Burgess, East Chatham, five years old, pure juice of the grape, in fine condition. Diploma.

Grain and Seeds.

Winter Wheat.—Five bushels, Aaron Houghtaling, New-Scotland, Albany county, Soule's Wheat, very fine, weighing 62 lbs. bushel, $8.

Spring Wheat.—1. David Coonradt, Brunswick, Rensselaer county, $8.

2. George K. Eells, Clinton, Oneida county, $5.

3. R. S. Ransom, Fenner, Madison county, $3.

Rye.—1. David Coonradt, Brunswick, Rensselaer county, $5.

2. W. P. Coonradt, Brunswick, Rensselaer county, $3.

Four Rowed Barley.—1. Obadiah Howland, Owasco, Cayuga county, 52 lbs. per bushel, $5.

2. Samuel Morgan, Watervliet, Albany county, 41½ lbs. per bushel, $3.

Two Rowed Barley.—1. David Hess, Fenner, Madison county, Hess' Barley, 53 lbs. per bushel, $5.

2. R. S. Ransom, Fenner, Madison county, Hess Barley, 51 lbs. per bushel, $3.

3. Obadiah Howland, Owasco, Cayuga county, 49 lbs. per bushel, $2.

Oats.—1. Peter Crispell, jr., Hurley, Ulster county, 42 lbs. per bushel, $5.

2. David Coonradt, Brunswick, Rensselaer county, 39 lbs. per bushel, $3.

3. C. W. Eells, Westmoreland, Oneida county, 39 lbs per bushel, $2.

Yellow Corn.—1. Charles W. Eells, Westmoreland, Oneida county, $5.

2. Samuel Morgan, Watervleit, Albany county, $3.

3. O. Howland, Owasco, Cayuga county, $2.

Beans.—1. R. S. Ransom, Fenner, Madison county, Canada field beans, $5.

2. O. Howland, Owasco, Cayuga county, large white beans, $3.

3. David Coonradt, Brunswick, Rensselaer county, round white beans, $2.

Peas.—O. Howland, Owasco, Cayuga county, $5.

Flax Seed.—James T. Van Namee, Pittstown, $3.

Timothy Seed.—1. O. Howland, Owasco, Cayuga county, $5.

2. C. W. Eells, Westmoreland, Oneida county, $3.

Paris Barber exhibited 31 varieties of beans, which attracted much attention

DAIRIES.

Butter.—1. Joshua Ballard, Homer, Cortland county, Silver Cup, value $15.

2. H. Worden, jr., Lee, Oneida county, Silver Cup, value $10.

3. Noah Hitchcock, jr., Homer, Cortland county, Silver Cup, value $5.

4. Ira Bowen, Homer, Cortland county, Trans.

Cheese.—1. Moses Eames, Rutland, Jefferson county, Cup, value $15.

2. Paris Barber, Homer, Cortland county, Cup, value $10.

POULTRY.

The show of Poultry was remarkably good, and many of the varieties were of an excellence that should commend them to all interested in this important branch of domestic industry.

The varieties entitled to special notice as reported by the committee, are,

Bolton Greys, cock and two hens, Mr. Johnson, Albany.

Buff Shanghaes and Malays, W. H. Southwick, New-Baltimore.

Coop white Cochin Chinas, extra, John E. Tompkins, Greenbush.

Black Shanghaes, J. M. Lovett, Albany.

Dominiques, L. G. Morris, Fordham.

Black and spotted Shanghaes, black and golden Poland and white Bantams, W. H. Southwick.

Chin-Chang-Fou, (new variety,) Thomas W. Ludlow, Yonkers.

Fancy long eared English Rabbits, E. E. Platt, Albany.

Pheasant Fowls, E. Corning, jr., Albany.

The following are the varieties exhibited :

Black Javas, E. K. Johnson, Albany.

Bolton Grays, Dorkings, Jersey Blues, B. P. Johnson, Albany.

Java Fowls, Cochin China hens, Master Egbert Carey, Albany.

Gray Shanghaes, Black do, Buff do, Cochin China, Golden Poland, Silver do, Black fantail Pigeons, Black Cayuga Ducks,

Bremen Geese, Fancy long eared Rabbits, a very fine collection, E. E. Platt, Albany.

Black Spanish, Cochin China, Buff Shanghaes, Black do, Spotted do, Malays, Javas, Black Poland, White Shanghaes, Golden Hamburgh, do Polands, Gray Chittagong, Game, Malays, Imported Shanghaes, very fine collection, W. H. Southwick, New-Baltimore.

White Cochin China, White Shanghaes, Gray do, Black do, Yellow do, White Fantail Pigeons, fine collection, John E. Tompkins, Greenbush.

Black Shanghaes, White do, Partridge do, Black Spanish, fine collection, J. M. Lovett, Albany.

Dorkings, Dominique, Cross Birds, L. G. Morris, Fordham.

White Shanghaes, Black Spanish, J. McD. McIntyre, Albany.

White Shanghaes, Black do, Brown do, Geo. Anderson, Albany.

Colored Shanghaes, Gray Chittagong, White do, Red-wing do, C. Bonticue, Lansingburgh.

Pheasant Fowls, Golden Hamburgh, white-crested Fowls, Turkeys, E. Corning, jr., Albany.

Chin-Chang-Fou, something new, Thomas W. Ludlow, Yonkers.

English Game Fowl, E. Goodrich, Albany.

Fat Cattle.

1. Best fat Ox, 4 years old and upwards, Gilbert & Sprague, $30. 2 Same, $25. 3. Ira Rix, $20.

Best fat Steer, 3 years old, Robert Rome, Geneseo, $25. 2d do Robert Rome, $20.

Best fat Cow, 4 years old and upwards: 1. Augustus Ross, Preston, Chenango county, $20. 2. Wm. Felt, Smyrna, Chenango county, $15. 3. S. Gowdy, $10.

Best fat Heifer, Erastus Corning, jr., Albany, $15.

Best 3 years old Heifer, B. McNeil, Carlisle, Schoharie county, $15.

The committee regret that more premiums were not at their disposal, and recommend a volume of Transactions to each of the other competitors, A. Ross, Chenango county, and Mason Salisbury, Jefferson county.

Live Sheep.

Best long wooled, two year old and over: 1. Hungerford & Brodie, Jefferson county, $10. 2. E. Gazly, Dutchess county, $8. 3. Leonard Jenison, New-Lebanon, Columbia county, $5.

Long wooled, two years and under, D. S. Baker, Ontario county, $8.

Middle wooled, two years and over: 1. D. S. Baker, Ontario county, $10.

Middle wooled, under two years, D. S. Baker, $8.

Cross breed, two years and over: 1. D. S. Baker, $10. 2. B. McNeil, $8. 3. J. Winne, $5.

Cross breed under two years, D. S. Baker, Ontario county, $8.

Dressed Meats.

Long wooled Sheep: 1. D. S. Baker, Ontario county, $5. 2. Patrick Downey, Albany, $3.

Middle wooled: 1. D. S. Baker, Ontario county, $5. 2. Patrick Downey, Albany, $3.

Cross breed: 1. Kenelly & Magraw, Albany, $5. 2. Patrick Downey, Albany, $2.

Dressed Hogs.

Over 350 lbs: 1. E. Corning, jr., Albany, $5. 2. C. Rapp, $3.

Under 350 lbs: Jurian Winne, Bethlehem, 1st and 2d premiums, $5 and $3.

Fowls.

Turkeys: 1. O. Howland, Owasco, $2. 2. O. Howland, $1.

Capons: 1. O. Howland, $2. 2. E. S. Bliss, $1.

Geese: 1. E. S. Bliss, $2. 2. O. Howland, $1.

Chickens: 1. E. S. Bliss, $2. 2. O. Howland, $1.

Ducks: E. S. Bliss, $2. 2. E. S. Bliss, $1.

LIVE HOGS.

Very superior ones were exhibited by Geo. Schwartz, C. Rapp, and Lewis G. Morris, vol Transactions to each.

MEETING OF THE NEW BOARD.

February 11, 1853.

Present—LEWIS G. MORRIS, President; GEO. VAIL, GEO. GEDDES, WILLIAM KELLY, Vice-Presidents; WILLIAM BUELL, J. A. SHERMAN, Executive Committee; B. B. KIRTLAND, Treasurer; E. CORNING, jr., B. P. JOHNSON, Secretaries; JOHN DELAFIELD, L. F. ALLEN, E. P. PRENTICE, Ex-Presidents.

The resolution of the Society, recommending Saratoga Springs as the place of holding the next Fair, having been presented and considered, it was

Resolved, That the next Fair be held at that place; provided the requirements of the Executive Committee be complied with at the next meeting of the Executive Committee, on Thursday the third of March.

The days designated for the Fair of 1853, are September 20, 21, 22 and 23.

ADDRESS

OF HON. HENRY WAGER, PRESIDENT OF THE SOCIETY.

[Delivered at the Annual Meeting, February 10, 1853.]

To the Officers and Members of the New-York State Agricultural Society:

GENTLEMEN—I enclose herewith some remarks which I had prepared as the basis of an agricultural address, at the close of my official term of service. While engaged on a committee of the Society, as a delegate to the Annual Show of the Eastern shore of Maryland, I contracted a severe cold, which has made me an invalid, and has constrained me, under the advice of my physician, to seek a change of climate, in hopes that my health may be restored.

It was my most ardent desire to have been present at your Annual Meeting, but Providence has ordered otherwise. Had I time and strength to review what I have written, I might have enlarged upon some topics, and have abridged others. You must, however, under the circumstances, receive it as it is. I ask only, that you give me credit for a deep and abiding interest in your welfare, and in the continued success and prosperity of your Society, in which I have ever felt a deep interest.

Wherever I shall sojourn, my memory will dwell upon the many interesting scenes of the past, and though absent from you at your annual meeting, I shall be present with you in spirit.

Be pleased to accept my warmest and most heartfelt desires for the prosperity of the Society, and my highest regard for its mem-

bers, for the honor they have conferred upon me, in electing me their presiding officer.

With sentiments of the highest respect,

I remain yours, &c.,

HENRY WAGER.

ADDRESS.

Gentlemen—Custom, coeval with your existence as an Agricultural Association, makes it the duty of your presiding officer, at the close of each fiscal year, to address you in relation to the condition and progress of the Society, and the dignified and ennobling pursuit which your organization is designed to promote.

In addressing you, as a plain practical farmer, I have no apologies to make. You know me as a farmer; as such I have ever met with you, and I therefore desire to speak to you freely. The remembrance of the past year, your kindness, your ready and valued assistance in every labor and work required, gives me the feeling of home. I take courage to talk to you, as a man by his own fire side.

The close of another year has again brought us to one of those resting places in our history, when we may look back upon the past in review of what has been done, and look forward to the future, anticipating what may be our progress for time to come. As individual farmers, we need some period to take note of our success or of our failures, in order that we may profit thereby; so also, as a Society of farmers, it is profitable for us to remember our past history, and lay out our plans for future work.

Twenty years since, a few spirited citizens organized this Society; their plans were general, but they proceeded like men in earnest, who had laborious and important work to perform, and whose only hope of success, rested in willing and earnest hearts. Like all American efforts at that time, it seemed an experiment. It was an untried field mainly, and may with truth be said to have *been an experiment*. Of details and precedents they had none before them. Their one great object was to elevate the profession, and ennoble as it deserved the labor and

toil of the tiller of the soil. One great idea appeared in all their thoughts, to render pleasant as well as profitable the labors of domestic husbandry. The most sanguine had but limited ideas of success at first, still, in the prog. ess of time, the efforts of those connected with this Society have been crowned with an abundant harvest. Although mistakes have been made, and at times things have not in all respects been as might have been desired, still as a whole, I think I may with safety say, that no institution of the kind has done more for the true interests of agriculture, than has been accomplished by this Society.

It may not be unprofitable to draw a brief contrast between agriculture as it generally prevailed in our State twenty years since, and at the present time. Perhaps the minds of many who hear me may call to mind a rural district as it then existed: a half cultivated country would seem to indicate that chance had vastly more to do with farming, than system, skill, and judgment. It was an occupation in which but little improvement was observed, from the practice of olden times. The practice of the father was followed by the son, without investigating whether there might not be improvements, the same tools were used, the same method of operations observed; even the very rude dwellings were in too many instances occupied, as if with religious veneration, until absolute decay drove the occupants to find other shelter. It was not then a day of progress, of advancement, to any considerable extent. Failures and defective crops were considered as necessary evils for which there was no remedy; they were placed in the same connexion as pestilence and famine, visitations from Providence.

The inquiry was seldom made as to the reason of these failures, it was a matter of course, and must be borne with patience. The farmer's dwelling was then too often, a frail unpainted house by the way-side, without shrubbery or yard, his scattered and defective outbuildings were of a character both as to construction and situation, often most inconvenient. The way-side and hedges were covered with noxious weeds and shrubs, and the fields plentifully supplied with thistles and other injurious weeds. His stock, exposed to the pelting storms of the severe

winters, and half starved, was of little value; and in every department, it may with truth be affirmed, that after making every reasonable allowance, there was a very manifest deficiency, that needed correction. The dairy, if so it might be called, presented such abundant evidence of lack of skill and attention, that if the products, as then too often prepared, could now be brought before us, the surprise would be great indeed, that there ever could have been a time when such materials as these were dignified with the names of butter and cheese. But I do not desire to dwell on the deficiencies of the past. There was then enough of toil and more labor often, even than now; but it was unregulated, because not directed by that skill which science has since brought to the aid of our farmers, and enabled the observing and the inquiring mind to profit by, and thus realize immense benefits in all the operations of the farm.

Agricultural chemistry had shed but feeble light upon the farmer's pursuit, upon the nature and food of plants, and of the soil, or of the value of particular manures for particular crops. Farming had not been reduced to a system. As one of the most important pursuits in our country, in fact the foundation upon which all other pursuits rest for their success, it was in reality most sadly neglected, and far in arrear of other pursuits, in the way of improvements.

The first necessary work to be done to arouse the farmer, was to enkindle within him an ambition to improve and excel, and to convince him that this could be done by vigorous and determined effort. All this, your Society has done for the farmers of New-York. It opened its awards to all upon equal terms, it spread before them the results of the labors of those most intelligent and successful in their operations, thus enabling the unsuccessful to profit and improve. Information gathered from a thousand sources, has been scattered abroad; science and practice combined have year by year contributed to help forward the work, and the farmers of New-York have made most creditable advances. Farming is no longer that uncertain, profitless work, which it once was. It is now reduced to a system, securing returns far more certain in their character, and at the same time as remunerating as any investment in any other pursuit.

Look around you and see what has been done, and tell me if any portion of our State can boast of neater dwellings and happier homes than are to be found in the rural districts of our State. There are farmers' homes that rival in beauty the mansions of the wealthiest, and there are charms connected with his well cultivated and neatly arranged farm which the city or the town can never reach.

The debt-burdened farmer has become the man of manly independence, and everything around him gives evidence of a cultivated and refined taste. His buildings bear evidence of design; they tell of home-comforts and home-convenience too, and are arranged in such a manner as best to secure the convenient dispatch of every portion of labor required. The substantial and well made fence, the clean fields, the drained swamps, the luxuriant herbage upon the hill-side, the waving crops of every variety, the well-filled barns, all testify of the farmer's independence.

The most fastidious can now find attraction in the farm yard. Fine herds of cattle, well fattened swine, the finely formed South Down or the fiuely fleeced Saxon or Merino, the choice poultry, the cultivated fruit of every choice variety, all testify that an interest has been enlisted in this noble pursuit, most creditable to the farmer and most gratifying to every friend of his country.

Gentlemen—I claim that much, very much of this is due to the efforts of this Society. A generous rivalry has been aroused, which has penetrated to the remotest part of your State. Each man becomes a competitor; choice varieties of grain are sought for, choice breeds of animals are secured; experiments in rotation of crops are carefully made, and we are beginning to realize that *labor* and *toil* have their reward.

Improvement, however, has not stopped here. The desire to do everything better than has heretofore been done has caused a demand for improved implements for the farmer's use. He asks that his plow, his rake, his wagon shall compare with the improvement of his residence; that his axe, his hoe and his scythe shall equal, if it do not rival, the far-famed Toledo blade for its temper and its keenness of edge. He is not satisfied with this

even; he asks that inventive genius shall provide for his every want. The result of this is that things which, a century ago, would have been deemed the creation of magic, are now sober matters of fact.

Those of you who had the pleasure and satisfaction of witnessing the trial of implements at Geneva will bear witness to all I say. It would be departing from my design to express my own opinion as to the relative merits of the machines which were there tried; there was much, very much entitled to the highest praise. It is enough that I refer to the general results of that trial. What would our fathers have said, could they have seen their sons riding leisurely through the harvest field, having a reaper to do the harvest work, or to have witnessed the grain drill or broadcast sower dropping seed more perfectly than human hands could do it?

Gentlemen—Had these things happened a century earlier, I am not certain but some sagacious man would have suspected a league with the old serpent, and a trial for witchcraft might have been the result. The careful estimates made by the very intelligent committee have furnished us mathematical proof that economy as well as comfort require, and will, doubtless, insure their general introduction.

I should be pleased to have given you the statistics of our Society, but time forbids that I enter upon their recapitulation. These, however, are detailed in the journal and Transactions of the Society. From 1832 to 1841 the society had an existence, and but little more. In 1841, upon the passage of the act for the encouragement of agricultu e, so creditable to the Legislature of our State, the society was remodeled and placed upon a substantial basis. With hope and fear alternately prevailing, the first fair was decided upon to be held at Syracuse. It succeeded beyond the most sanguine expectations of the society. The exhibition called forth the admiration of thousands, and was one in which we took an honest pride; but now there are single farmers that can boast of better stock and greater improvements in crops than the aggregate of all then on exhibition. If you

will contrast the entries and receipts of the fair twelve years ago with those of this year and the two previous years, you have abundant proof of the progress made.

Gentlemen—To understand it in its full extent, you must estimate the increase of the agricultural products of the State, and also mark the improvements in the quality as well as quantity. These results have been secured by systematic toil and laborious effort, by adopting crops fitted to the soil, by careful selection of stock, in a word, by having definite instructions for the guide of the farmer.

Although much has been already done, for which we should be truly gratified, the objects of the Society are unaccomplished, and will be until our country puts on the garb of perfection in all that relates to the pursuit of the farmer. Our Society has still a most important work—the advancement and perfection of agriculture. The interests of agriculture are identified with the true prosperity of our whole country. I do not speak of the farmers merely as producers. I go further. To a great extent the character of our country will depend upon the intelligence and standing of the agricultural population. They form a strong conservative element in our political frame work. They are removed from scenes of excitement, and living amidst nature's noblest works, they can look upon all the varying scenes of public affairs calmly and dispassionately; their habits are peaceful, and nothing can add higher dignity to our nation than an intelligent and well educated rural population.

How shall this end be secured? I answer, by steadily pursuing your original plan, to make the profession honorable, while, at the same time, the result of toil shall bring competency with it. One difficulty meets us at every step—the fear that honest labor shall be degrading. This is a fallacy that never for a moment should be suffered to prevail in this land, where rank and title belong only to the most worthy, and thus within the reach of all. The eagerness with which our young men forsake the farm for the office or the merchant's counter, tells us that this evil exists at the farmer's home, in many cases at least. It is a most ruinous exchange, for it gives up the independence of the farmer for the servile life, constantly occupied in attendance upon

others. If there is one man who is nobler than his fellow, it is that man who wins his bread from his mother earth by honest toil. We must make labor everywhere honorable. To do this, the public mind must be aroused and directed to the subject.

Whatever brings a class forward before the public, is calculated to attract attention and give it position, if entitled to it. Our agricultural associations are exerting, in this direction, a most salutary influence; they place this interest before the public in its true position, as one of the highest importance, and the public mind is already influenced by it. The retiring statesman and merchant turn away from their life of perplexity and toil to seek for renewed vigor and true happiness among the works of nature. In this country, where men have seldom an hereditary fortune, but each man builds his fortune for himself, it will be all important that agriculture, while it is elevated as a pursuit, shall also carry with it a sure competence; and this, we are satisfied, results from well directed effort in this pursuit more certainly than in any other profession or pursuit in our country.

We have changed our relations with the world since we have entered upon the era of economical farming. We are now competitors with the world; our farmers are meeting competition in their wheat from the Black Sea, as well as from our own fertile prairies. Our dairymen of Herkimer and Oneida, when they look for a world's market for their cheese, are met with the competition of Cheshire in England. The cattle grower, too, has his rivals abroad. Thus, with all the branches of our pursuit, we have entered the lists with the world. It is a struggle for the mastery, a trial far more honorable than the tournaments and combats of centuries ago. Those who shall triumph will confer an honor and blessing upon their country and the world.

Other lands boast of their rich soils and cheap labor, but in no other land have richer provisions been made for the industrious than in this free land of ours. What we need, as a people, to meet our rivals, is knowledge in our profession, to enable us to judge wisely as to the character of our soils—of the crops best suited to cultivation—of the means best calculated to secure the largest products; and this will include everything that pertains to the thorough management of the farm in all its varied details.

There is a like necessity to enable our farmers to judge discreetly in relation to the breeds of cattle best suited to their locality—the breeds of sheep and swine that will yield them the largest return at the least expense. We have in this State made commendable progress in this direction, and much of it is justly attributable to the influence of your Society; but as yet we have but entered upon the great field of scientific farming, "science with practice." Far be it from me to assume the character of a prophet, when I express my convictions that years to come are to be marked by greater progress than anything to be found in years that have passed away.

We need an educated and enlightened body of farmers. You and I may have been successful in days past, without this preparatory scientific training; but such is not to be the fate of the young man who, with fool-hardiness, rejects the light that is shedding its rays around him because he is following in the footsteps of his father. In a sparse population an industrious man may gain the good will of those around him, and his toil may secure a measure of success. Home demand will sometimes accept of homely production, but the time has come when the world demands men fitted for their posts. It requires a master mind to rise to eminence in any pursuit: agriculture, surely, is not to be an exception. Our young men ask, and they have a right to demand, that they should be fitted for their position.

Much of this work of preparation can be done by the fireside and the influence of right example; much more by the careful perusal of your Transactions and valuable agricultural papers, which ought to be read in every farmer's household, and carry their truths to every heart, but after all, these do not and from the nature of the case cannot meet all his wants. Too often the recommendations given are too general in their character, and the directions when followed, result in adding to the list of experiments which have proved but failures. Farmers even may try the same course of experiments and yet from unknown difference in soil or climate, may fail and the result prove entirely different. Theories are put forth without sufficient practical tests. Yet our farmers seem to feel that agriculture is a pursuit of which a man can at once become a master, without aid from any

quarter, when in truth no pursuit of life needs a more thorough and systematic preparation to discharge its varied duties aright.

We would insist that the instruction for the farmer should be based upon competent authority, that the theory shall be fully illustrated by correct practice, and that the details and results shall themselves testify as to its correctness. Opinions carelessly uttered, are valueless, but if the result of well tried experience, they are reliable and safe rules for action.

It is the opinion of many of our most eminent agriculturists, that to secure such a result, we must be favored with an Agricultural School, with a competent board of professors, an institution upon an extended scale, with a farm attached, comprising the various soils of our State as far as practicable, upon which experiments suited to each variety can be made. I am not here to give details for such a school. That is a work for abler hands than mine. I only express my honest convictions that such a school is demanded, and should be made worthy of the Empire State. When the farmers of New-York ask this, they are not greedy beggars at the door of the treasury, they ask and claim simply their rights, it is the peculiar province of the Government to foster and encourage education; already the State has done much, she points with pride and satisfaction to her common schools, academies and colleges as evidences of her liberality; but while these are in the highest degree praiseworthy and useful, they do not provide for the education of the practical men needed for our work.

When the student leaves even the highest of these institutions, is he prepared to discharge his duties as an agricultural chemist? or can he be made useful in the ordinary work connected with the farm; in too many instances, the sad reality has been made known that his education has been so directed as not to be applicable to the realities and requirements of practical, active life; I have a son whom I have made a farmer; I would gladly have given him a collegiate education, but to have done so, he must have run the hazard of four year's habits, far different from what the farmer's son needs, of bad associations it might be, and after all, might have been returned to his home ashamed of the manly life of a farmer.

It is the unpractical character of the education at our higher seminaries of learning, that has made us feel more deeply the need of a school suited to our pursuit; this should be the right hand of our society, it is worthy of our united efforts; the students educated there are not alone to be benefited, for truths there learned become common property, and must be scattered broadcast among the people; let correct theory, thoroughly tested by judicious practice, be but secured to our practical Anglo Saxon race, and the battle of toil and labor will be well nigh won.

It is usually the province of your president, at the close of his official term, to venture suggestions for the future; I enter upon this with diffidence, each year has matured our system of operations, and it seems almost presuming, to offer suggestions. As the sphere of our influence widens, we should enter upon an enlarged and generous policy.

As far as a safe regard to our resources will allow, our premium list should be extended, always giving preference to those whose hands have toiled to secure the returns required; there are many wants which are unsupplied, let our premium list as far as practicable, be so arranged as to meet them; in reference to our stock, we should endeavour especially to encourage such as is best suited to our State, and which will be most profitable to the farmer, and in like manner in respect to every department, let a judicious regard be had.

Some have objected to the entry of needlework at our fairs; it would in my judgment be most unwise to neglect or pass by the domestic industry of the household, for these are among the happiest associations of the frugal and industrious housewife, and home industry is here encouraged, which is one of the brightest domestic virtues; I have no fear that these associations, which throw a charm around the domestic hearth, will be interfered with or disregarded, they have hitherto contributed largely to the interest of our exhibitions, and have secured the co-operation of the ladies, without whose approbation and encouragement, man has never been successful.

While it is desirable to extend our premiums, it is of the highest degree important that we have a due regard to our resources

and that we do not cripple the operations of the Society, by such a lavish increase as will embarrass its operations.

The expenditure of a portion of our funds, for essays and experiments upon practical and scientific subjects, has secured to us heretofore many valuable articles, that have amply repaid the society for the expenditure, and it is to be hoped that a due regard to the interests of the cause will secure a like appropriation for the future. Of the general management of the society I can only say, that my father taught me a proverb "let well enough alone;" it is a safe rule in business life, and not less so here, the means which have prospered us in the past, will be the ground of future hope; thus far we have steadily pursued our course for one end; the society has carefully avoided all topics not connected with its legitimate duties, and this has been its safety, it has left other subjects to those connected with them, and thus has avoided those divisions which divided counsels must ever bring with them; we only need warm and earnest hearts, and united action as heretofore, to ensure us success, wise heads guided our infancy, and their precepts and examples will be found the best stay of our maturity and manhood

I tender you my hearty congratulations on the success of the year which has past. I rejoice that a fraternal intercourse has been opened between our Society and kindred ones throughout our land, and even extending the paternal hand across the sea to foreign lands; and here permit me to congratulate our worthy Secretary, that to his labors we owe much of this result. The success of our countrymen at the World's Fair is, much of it, due to his perseverance and that of his friends, who asked for them only what was due, and in the end obtained for them that position which left the New World equal to the highest.

Gentlemen, may we not hope that the time will soon come, when there will be a brotherhood of agriculturists throughout the world; may we not believe the time of prophecy is approaching, when the sword shall be beaten into plow-shares, and the spear into pruning hooks. Such seems to me to be the indications of that Providence, which has so kindly blessed the agricultural efforts of the last half century.

In conclusion, permit me to return to you all my heartfelt thanks, for your kindness in aiding me to fulfil the arduous duties of President. The year, with its labors and pleasures, has passed away, but not without leaving me many pleasing and delightful reminiscences, which I shall retain among the happiest of my life.

I would express my personal obligations to the indefatigable efforts of the officers associated with me, and I cannot forget the kind and most valued advice I have recived from my predecessors in office.

To the officers of the Society, and the citizens of Utica, I return my thanks for their untiring efforts, in preparing for and assisting at the annual exhibition. It is a pleasant task to act as your presiding officer, when all things herald success. The time of doubt, of despondency and fear, has passed away. It is the hour of hope, of confidence, the sure forerunner of our triumph. To-day the farmer, thanks to his noble efforts, stands firm in his position; his vocation among the foremost, his prospects not less cheering than the most successful. Let him ever bear in mind that there is dignity in labor, toil bringeth reward, toil looketh upward, toil shall crown all with success.

The fairs of 1852, the agricultural and mechanical, have exhibited in a most gratifying manner, the progress which has been made in our country, and which would have excited envy in the bosom of kings. The man of fifty years ago, suddenly placed in their midst, would have fancied himself in a fairy land. What may not be seen in a World's Fair in our metropolis? we may, and ought to rejoice together for having witnessed the day, which our fathers desired to see and saw it not.

Gentlemen, I close with my best thanks to you all, and with my warmest wishes for your health, happiness, and prosperity.

REPORT OF THE COMMITTEE ON DAIRY BUILDINGS,

ALBANY, FEBRUARY 9, 1853.

The committee on dairy buildings would respectfully report that there were but two plans of dairy buildings exhibited for examination, both of which were of butter dairies.

The plan of Mr. Horace Clapp's dairy building, of Houseville, Lewis county, was drawn up with great care and ingenuity, and showed a system of order and neatness in construction, above the ordinary mode of building dairy buildings, and having complied with the rules of the Society, we award him the first premium.

The plan of Mr. A. J. Winkoop, of Chemung county, not being accompanied with such detailed statements, as to cost of construction, &c., as the rules of the Society require, the committee do not consider him entitled to a premium.

The committee regret very much that so little attention is paid to improvement in constructing dairy buildings. *Especially those designed for cheese making.*

It is a fact well known to the practical dairyman, that the greatest impediment to obtaining a desirable quality of butter, or cheese, from milk, is the variable and unequal temperature that our climate is subject to, which is very annoying to the cheese maker, owing to the length of time and critical changes that cheese pass through in the process of curing, or cheesing the curd.

The committee would therefore recommend as the first object to be sought in the improvement of dairy buildings, such a construction as will best control the *temperature within*, or in other words, the cheapest and best facilities for creating an artifical temperature when required, viz., cool and dry, or warm and dry, and cool and damp, or warm and damp, *either*, as the age and condition of cheese may require in the process of cheesing, or curing; and secondly, (*and no less important*,) cheapness and

economy in building, with adaptation to general and practical use.

The above is respectfully submitted,

A. L. FISH,
JOHN WINSLOW,
JAMES MACINTYRE, } *Committee.*

A brief statement of my Dairy House, Dairy apartments, Outer Buildings, &c., Houseville, Lewis County, Jan. 24, 1853.

My dairy house is situated on elevated ground, and adjacent to three streams of pure soft water, with which we do our churning, sawing wood, &c. The upright part of the dairy house is 30 by 20 feet, on the S. W. end, an addition of 30 by 20 feet, on the S. E. end, 30 by 20 feet occupied for kitchen and wood house, dairy apartment, under the S. W. part of dairy house, 30 by 20 feet, with three stone walls under ground, three sides connected with cellar under dairy house, whereby cool air can be admitted from cellar by a door if necessary, three windows and outer door attached to dairy room, having enlarged my windows by extending them down to the floor; (since making my former statement,) to admit a current of air *under* the milk; the fixtures, method of churning, &c., I will refer to my former statement in 1850, and plan presented. Dairy house divided into five square rooms, one bed room attached in rear of upright part, pantry attached to kitchen; aggregate cost of dairy house, dairy apartment, and fixtures, $1,200; wash room disconnected with dairy room, 10 feet, wash room 20 by 16 feet, well of soft water with pump, and "dairy maid furnace," water conducted from pump into kettle, cost $75.

Milk conducted from dairy to pigery by spout, into a vat sufficiently large to receive all the milk, and pumped into troughs for the pigs, *without waste*. Pigery, 30 by 20 feet, cellar under one side, seven rods from dairy apartment, cost $100; horse barn, 8 rods from dairy house, 30 by 24 feet, cost $120; cow barn, same distance, 54 by 24 feet, alley in center, and stable each side, $120; barn, same distance, 42 by 30 feet, with stable next to floor, bay 10 feet below the floor, lintel added to one end for stabling, cost $200; distance between barns, about five rods;

calf barn, five rods from dairy house, 20 by 20 feet, cost $75, to rear calves in the spring and winter; alley in center, and stabling each side; ice house, 16 by 12 feet, cost $15. In addition to the above, there are on the farm three hay and grain barns, 42 by 32 feet. HORACE CLAPP.

Draining.

The committee to which was referred the communications of Robert J. Swan, of Fayette, Seneca county, N. D. Benedict, superintendent of the State Lunatic Asylum at Utica, and Jonathan Talcott, of Rome, have had the same under consideration, and respectfully report, that by the rules laid down for our government, Mr. Swan is entitled to the first premium, he having laid on his farm, during the last year, seventeen miles and sixteen rods of underground drains, from thirty to thirty-six inches deep, and all of it laid with tiles. He states the cost per rod at 28½ cents, including the cost of the tiles. The cost of digging the ditches from two to two and a half feet deep, he puts at the very small sum of 12½ cents; a sum that is from 20 to 25 per cent less than the committee, from their experience, supposed it could be done for in common excavation.

Mr. Benedict states that he has laid on the grounds belonging to the asylum, during the last year, 943 rods, three feet in depth, with three-inch horse-shoe tile, at an expense of 92 cents a rod, the tile costing 30 cents and the labor being stated at 60 cents a rod.

The great difference in the cost of the labor in Mr. Swan's drains and Mr. Benedict's, is calculated to attract attention. If to the price Mr. Swan puts to digging the ditch, be added the cost of laying the pipe and filling, we have 15½ cents against 62 of Mr. Benedict. Mr. Benedict's ditches probably average three inches deeper than Mr. Swan's, and as Mr. Benedict puts in the bottom of his ditch a board for the tile to rest upon, it is probable that an allowance should be made on this account; still there is a large margin, that perhaps may be charged to the fact, that it generally costs the public more to do work than it does an indi-

vidual. Mr. Benedict drained, in 1852, eighteen acres of land, at a cost of over $48 per acre. We are gratified that the superintendent of this institution has given to the public an account of his improvements, and we believe, that even at the cost stated, the investment will prove to be a good one.

Mr. Talcott has laid, during the last year, 330 rods, three feet deep, at a cost of 35 cents a rod for tile and 30 cents for stone drain. His statement contains some useful suggestions, but the form that he gives to his drain that is laid with stone, we think quite objectionable.

The second premium, the committee suppose, would be due to Mr. Benedict, if the drain had been laid at his own expense, but as it is upon grounds belonging to the public, the committee do not feel authorised to award the premium.

All of which is respectfully submitted.

GEO. GEDDES,
T. G. YEOMANS.

STATEMENT OF R. J. SWAN, OF SENECA COUNTY.

My farm is situated on the banks of the Seneca Lake, in the town of Fayette, in Seneca county, containing three hundred and forty-four acres, and is about three miles distant from the village of Geneva. The soil is a clay loam, forming a part of the ridge which extends from the Seneca river to the southern borders of the county. This ridge, which rises gradually in its whole extent to the south, has given a character to our farms as highly favorable to wheat, yet it has been noticed, that its summit every where indicates an excess of moisture.

The benefits derived from draining this soil, by a thorough and judicious system, were too strongly marked on an adjoining farm to escape notice; the crops of wheat, corn and clover, prove tc me, clearly, that thorough draining had increased both quantity and quality.

To participate in these advantages, I determined to carry out the system of thorough draining on my farm, and commenced opening the trenches in August last, continuing my operations

until the first of this month, (December,) in which period I laid seventy-two thousand five hundred and fifty drain tiles, (72,550,) in trenches varying from two and a half to three feet in depth; the tiles being fifteen inches in length, the whole extent of my drains made this year is five thousand four hundred and ninety-six rods, (5,496 rods,) or seventeen miles and fifty six rods; of this distance, about forty rods are laid with double tiles of large size; a large proportion of the tiles used by me are of the horse shoe pattern, rising two inches; a proportion of one inch pipes are laid also. *The whole cost* of the tiles is *six hundred and seventy dollars*, equal to about *twelve cents per rod* for the tiles. The cost of preparing the trenches was twelve and a half cents per rod, and the expense of laying the tiles in the trenches and filling them, was three cents per rod.

The drains are laid in nearly parallel lines, from thirty to forty feet apart, draining the water direct from the highest to the lowest parts of my farm; at the bottom of the drains, or at the depth of thirty to thirty-six inches, I found a hard compact bottom on which the tiles are laid, no other preparation being necessary.

I would here remark, that from the natural declivity of my fields, the water did not often appear on the surface of the ground, yet the excess of water, even on the highest grounds, almost every year destroyed portions of the crops, by winter killing or freezing out.

In the year 1851, I laid 16,000 tiles, which with the quantity laid this year, completes the drainage of about 200 acres of my farm. I deem it to be thorough, and it is so esteemed by others who have preceded me in this essential system of farm management.

One important feature, discernable, is the reclaiming twenty-four acres of soil which had never been tilled, producing only coarse aquatic grasses unfit for hay or pasture; this portion of the farm has hitherto been charged with the interest of cost and also taxes, without any return, a portion which hereafter will yield crops of any grain or grasses, equal to any other land. I

feel warranted in this assertion, thus early from results actually obtained, from precisely similar circumstances on an adjoining farm; with a view to future observation, and test of this system, I transmit herewith an actual survey of the reclaimed portions, duly certified.

The economy of draining land thoroughly, so far as relates to construction, may be better understood by the following figures:

Cost of digging trenches, per rod,.....	$0	12½
Average cost of tiles per rod,.....	0	12
Cartage of tiles from the kilns at $\frac{7}{100}$ per 1000,	0	1
Laying the tiles and filling trenches with plows,.	0	3
Cost of drains complete, per rod,.....	$0	28½

I am not aware that any verification of the foregoing facts is required, yet I notice that it has been practiced in regard to farms presented for premiums; and deeming it proper on all similar occasions, I have caused this statement to be duly verified.

ROBERT J. SWAN.

ROSE HILL, Seneca county, 29*th Dec.*, 1852.

STATE OF NEW YORK, } ss.
Ontario County, }

On this 6th day of January, A. D. 1853, before me came Robert J. Swan, and being by me duly sworn, he said that the above statement is true according to his belief.

CHARLES J. FOLGER,
Ontario County Judge.

At the request of Mr. Swan, I have surveyed the swales on his farm, which he has reclaimed by *draining*; the portion of the land on which only coarse aquatic grasses grew, was never plowed, and in spring and fall was so wet that a person in attempting to cross them, would mire.

And this is to certify, that by accurate measurement he has gained twenty-four acres of land, in the different swales, which will be fit for cultivation in spring.

HERBERT F. CONRAN,
Engineering Surveyor and Draftsman.

GENEVA, *Dec.* 1*st*, 1852.

State Lunatic Asylum,
Utica *Feb.* 7th 1853.

B. P. Johnson, Esq'r,
Sec. of State Agricultural Society:

Dear Sir.—The farm belonging to this institution is as you may be aware, situated on high ground inclining to the north; the soil near the buildings is sandy loam, underlaid by quick sand; the buildings stand on piles. Immediately in the rear of the buildings the land is nearly level, the quick sand near the surface, in a part of which water springs up; and from the whole of which the surface water disappeared slowly; standing in pools at which the cattle found drink in the summer when the streams were dry, and making a large portion of the plot of about fifteen acres too wet for plow or meadow land.

In the fall of 1851 we laid in these 15 acres (855) eight hundred fifty-five rods of tile drain. The drains were dug three feet deep at the head falling to their termination in an open water course, six inches wide at the bottom, in which is laid a board, on the board the horse shoe (∩) tile 3 inches in diameter, the joinings cased with sod; over these, pine shavings, and filled up with earth. The tile cost us here $21 per thousand, the cost of laying 62 cents per rod, equal to about 92 cents per rod. These drains discharged copiously during the past dry summer, keeping the water plot entirely dry. The land which was before almost useless, was plowed to the depth of twenty inches with a subsiol plow; laid out and cultivated for garden purposes, from which we obtained crops. It being inconvenient to obtain manure last spring none was used.

Cress or pepper grass,	60	bunches,
Parsley,	160	
Lettuce,	1,155	
Summer squash,	997	dozen,
Winter do	175	
Melons,	320	
Cabbages,	8,172	
Celery,	3,500	
String Beans,	185	bushels.
Green Beets,	173	"

Green Beets,	647	bushels.
Green Peas,	120	
Tomatoes,	279	
Radishes, (buds,)	3	
Peppers,	2	
Lima Beans,	19	
Salsify,	40	
Seed Peas,	6	
Corn,	125	
Potatoes,	700	
Rutabagas,	500	
Turnips,	326	
Carrots,	915	
Parsnips,	175	
Onions,	267	
Cucumbers, (pickled,)	18	barrels.
Pumpkins,	12	loads.

In the fall of the year 1852, we laid 943 rods of drain to the same depth, in the same manner as in 1851, a part on similar land in front of the building, used as meadow, wet and boggy, where common forest trees refused to grow; part on a clay swamp before uncultivated, in all about eighteen acres. The result on this land remains to be seen; we have no doubt of the entire success of the enterprise.

I am very truly yours,

N. D. BENEDICT.

ONEIDA COUNTY, *ss.*—N. D. Benedict, Superintendent of the New-York State Lunatic Asylum, being duly sworn, saith, that the foregoing statement is true, according to the best of his knowledge and belief.

N. D. BENEDICT.

Sworn to before me,
Feb. 7th, 1853,

P. S. ROOT, *County Judge of Oneida County.*

STATEMENT OF JONATHAN TALCOTT,

Rome, Oneida Co., *Feb.* 1, 1853.

To the committee of the New-York State Agricultural Society on draining, the following statement is respectfully submitted:

1. Situation of the land previous to the process, was very unlike in different places; the first piece operated upon was in the form of an oval circle, quite high, rather above the surrounding surface in the same field: the soil gravelly, with an occasional vein of blue clay intermixed, and so firm as to require the use of the pick before the spade in most places, thereby increasing the expense of the operation; the quantity of land in said piece is about two acres

The second piece was about one half clay subsoil, with a rich black mold of one foot in depth for the soil, and the other half gravelly, very similar to the first mentioned piece, containing about 1½ acres, also lying quite high, fully equal to the surrounding surface. The third piece was about equally divided between muck, clay and gravel, with an occasional vein of quicksand; lying rather low on the north, and rising towards the south, just enough for a good descent for the water to run off, containing about four acres in the form of a parallelogram. The soil on the first piece was very thin, being what is commonly termed a wet gravel; the subsoil being so compact that the surface was always covered with stagnant water in time of copious showers, and in spring and fall was perfectly saturated with water, so that a good crop of grain could not be grown on the piece, and the grass crop was poor and wirey, showing conclusively the deleterious effects of a superabundance of water. The second piece was quite similar to the first in regard to crops: and the third piece was quite boggy in places, and covered with bents and other coarse grass, having never been plowed till this fall, and then one-quarter of an acre was a good day's work for a man and team, the work was well done however, the roots were all picked up and laid on the surface of the ground where it had been plowed, and the surface all reversed in the operation, intending to fit it for planting in the spring and had determined to have it well done this fall, so far as plowing could go to complete the same for that purpose.

2. The method pursued was the same in all three of the pieces operated upon: the first thing was to look for a good outlet to discharge the surplus water that should accumulate in the drains, and then to reach the fountain head, which is as necessary as to have a good outlet; the depth of the drain is also important, it should be deep enough to be out of the way of frost, and also of the subsoil plow, as I think that implement will be used on drained soils to advantage and with profit to the farmer.

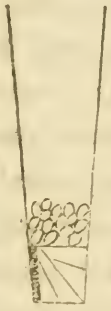
I have sunk my drains three feet in all cases where the fall would admit of so doing, some cases to the depth of 4 feet; I think from experience and observation on my farm, that 3 feet is about the right depth for profitable draining, in some cases four may not be any too deep, but that will be determined by any judicious person after a trial or two, better than any rule that can be laid down on the subject.

After having examined the grounds to be operated upon and located the places for the drains, I took a team and plow and turned a furrow from the ditch each way, like a dead furrow when plowing, then had the loose dirt thrown out that remained with a shovel, then took the team and plow, and sunk another furrow in the bottom of the first; by so doing quite a saving is made in the expense of digging for the drain, the remainder is thrown out with the shovel and spade of the operator, if the ground is firm, the ditch should be as narrow as it can conveniently be, six inches at the bottom is wide enough for stone or tile, in a firm subsoil, and it need be no wider on the top than is necessary to perform the operation.

If the subsoil is very close, 3 or 4 inches at the bottom is wide enough where pipe tile is used; but on my farm, where I have experimented, 6 inches at the bottom of the ditch is about the right width for either stone or tile.

I have used pipe tile of two-inch capacity, horse-shoe of 3 inch, and stone, for the past two seasons, in draining, but give the preference to pipe tile over all other material that I have used; I have also used timber for the same purpose, which was my firs trial; it operates well, having been laid two seasons.

After the ditch is dug, I take a hoe and begin at the upper end of it and clean out all loose dirt, and commence laying the stone or tile; if the latter is used, I lay one and then stand on it, and then put put another as close to the first as possible, and then step on that and if it is firm, proceed in like manner to the last; if any inequality is in the bottom, it is removed till the tile will lie firm and level; if the bottom is too soft, as is sometimes the case, flat stones are laid in under the tile till they will fit firmly in their places; a row of stones are then placed along the sides, care being taken to have them fit close at the joints of the tiles to keep them in place; a few strips of cedar bark are then laid on the top of the tile, and the whole covered with a team and plow, by turning the furrows towards the ditch, as in the common method of backfurrowing, until it is completed.



If stones are used in filling the ditch, my method of cleaning out is the same as for tile. I then commence as in the case of tile, at the upper end, and fit a flat stone close at the side of the ditch, then another side of the first, and then along the side of the upright ones thus placed at the side of the ditch, we set about two rows in the form of an A, as is shown in the annexed diagram; and the row of flat stones is continued at the side, and the other in the manner shown, to the end of the ditch; small round stones are placed on the top of the flat ones, and all covered in like manner as where tile is used which completes the operation.

I put about 15 or 18 inches of stones where they are used in depth in the ditch, calculating to have 2 feet of earth on the top of the stones, in all cases where the required depth can be had for a good outlet.

I hire my help by the month, and the expense is 35 cents per rod for tile, and 30 cents for stone, as near as may be calculated with whole numbers; and the soil and subsoil through which I have to dig, some cases occur where the expense will be a little more, and some a little less, but this is a fair estimate for the work done by me the past year.

Number of rods made the past year, 330. I have about 2 miles of drains on my farm and they operate finely. I walked over a

piece of drained ground on my farm last spring, in company with a neighbor, who expressed his surprise at the condition of the piece; "it was so dry," said he; "you have made this what it is now, for it was good for nothing before you drained it, and now you can raise just what you please here, let the season be wet or dry."

3. The result, in all cases operated upon, is very favorable; there has not been a failure yet with me; I have not cropped any that was operated upon the past year but a small portion of one piece mentioned in this statement; but judging this by preceding operations, I think that no outlay of money on the farm, of like sum, will be as beneficial and lasting as this.

In doing what I have done, about $20 per acre has been expended as an average. The last piece mentioned in this statement is not yet fully drained, although what was commenced is complete; but more drains will be necessary to a thorough draining of the soil; and as I have done the most of what I have done on the parallel system, more can be done as opportunity shall offer; I think when it is completed, that $50 per acre will not be too high to estimate the increased value of the last piece mentioned in this statement, and that $25 or $30 will be about the increased value of the two first pieces per acre; although a few years of cropping will better test the correctness of the estimate of the increase in value of all of them.

I will here state, that my draining the past year was about equally divided between stone and tile, as to number of rods of each, using the stone where the ground was firm, and the subsoil free from quicksand and quite hard, as I think a stone drain more likely to fill in a porous subsoil than tile, and then become useless, thereby disappointing the expectations of the operator, and becoming a hindrance to any farther experiments in draining.

I think that when the subject of draining is better understood in this State, that all the operations in that line will be better performed, and, as a consequence, will pay better on the investment, as in very many instances at present it costs more than it need to perform the work; for instance, many work at it too late

in the fall, and are retarded in their operations by heavy rains and freezing nights; this ought not so to be; the ditches should all be dug, and the tile or stone laid before freezing nights and heavy rains come, as the banks are very liable to slide in and cause delay and unnecessary expense when the operation is performed so late in the season. If the operation is performed sooner, the covering settles and becomes firm, and as the rains come, the drains are performing their work of silently carrying away the surplus water, and the soil will be in better condition for a crop the following year.

Very respectfully, &c.,

JONATHAN TALCOTT.

DAIRY STATEMENTS.

Butter.—Joshua Ballard 2d, Homer, Cortland County.

Method of Manufacture.

The sample of butter presented to your committee for your inspection, was manufactured by the undersigned in the following manner: After the process of milking was over, the milk was strained into tin pans, and set away on what is commonly called milk racks, and was permitted to stand there until it began to thicken; as to the length of time it stands, depends entirely upon the state of the weather. The cream is then taken off, and kept as cool as possible until the next morning, and then churned in a dash churn, when it begins to have the appearance of souring; cold well water is applied in small quantities, until the butter is sufficiently gathered, it is then put into a bowl and washed usually twice in cold water, then salted in the proportion of about one ounce of salt to a pound of butter, and then worked as little as possible, or sufficient to mix the salt well through the butter. The butter is worked with a lever, then it is set in the cellar until the next morning, when it is again worked lightly, then put into the cellar again until the next morning, then worked again and packed in tubs, a cloth is then spread over the butter and covered with about half an inch of salt moistened with water, and a tea spoonful of saltpetre dissolved in the water for each tub, after which it is kept as near air tight as possible.

The three tubs presented were made between the first and fifteenth days of October last past.

All of which is respectfully submitted,

JOSHUA BALLARD, 2D.

Dated Cortlandville, Feb. 5, 1853.

H. WORDEN, LEE, ONEIDA CO.

Method of Manufacture.

I milk ten cows, and give them only grass and hay, summer and winter. The milk, as soon as taken from the cow, is strained into pans, and set in the cellar. The cream is skimmed as soon as there is appearance of souring, and churned with a dash churn. The milk is worked out with the ladle without washing, and packed in white ash tubs. I salt at the rate of one ounce to the pound, with Ashton Liverpool salt, a fine cloth is put on the top of the butter, when the tub is filled and covered with wet salt.

H. WORDEN.

CHEESE.—MOSES EAMES, RUTLAND, JEFFERSON COUNTY.

Method of Manufacture.

The three cheeses on exhibition were made from the milk of forty-six cows, on the 14th, 15th, and 16th of June, 1852.

My manner of manufacture is thus: the milk drawn at night is placed in a tin vat, around which is one of wood, with a space of one inch, into which cool water is kept running all night. In the morning the cream is removed from the surface, and steam is applied through a pipe to the water, by which the milk is warmed to eighty-eight or ninety degrees, the morning milk being put in with the same.

The cream is now warmed, and put into the milk. The rennet and annatto is then put in, and the whole suffered to stand for one hour or more; then it is cut with a wooden knife into small pieces, and left to harden for thirty minutes, it is then carefully broken up by hand, and is again warmed to ninety-four degrees, and left to settle for fifteen or twenty minutes, the whey

is then taken off to the curd. Then I commence to break it fine by hand, using a gentle pressure to separate the whey from the curd, and after it is evenly and finely broken, the steam is let on and the heat is raised to 102 or 105 degrees, the whole is kept moving while heating; the steam is now taken off, and the curd remains in the scalding whey for thirty minutes, or until the whole is sufficiently scalded, which is known by feeling or tasting; the remainder of the whey is then taken from the curd, and the curd is left to cool for ten or fifteen minutes, then it is taken into the sink, where salt is worked in at the rate of one pound of salt to fifty of cheese; it is then put into the hoop, and pressed for twenty-four hours, with a pressure of seven to eight tons weight to each cheese. When taken from the press, it is placed on a table in the cheese room, and a slight coloring of annatto is put on the outside; it is now to be turned every day, and oiled with whey oil when required, to keep it from checking.

Yours with respect,

MOSES EAMES.

Rutland, *Jefferson Co., New-York, Feb.* 5, 1853.

GRAIN STATEMENTS.

Winter Wheat.—Ira Apthorp, Riga, Monroe County.

Cultivator's Statement.

The kind of soil, on which my crop of wheat, as mentioned in the annexed certificate, was grown, is gravelly loam. *The previous crop* was wheat. Amount and kind of manure to previous crop, clover plowed in. Time and frequency of plowing, harrowing, &c., in preparing for the crop; latter part of June, plowed once only. Time and manner of sowing, thirteenth day of September, broad-cast. Kind of seed, and quantity per acre; white flint, two bushels per acre. Time and manner of harvesting; cut with reaper, the last days of July. The whole expense per acre of producing and harvesting the crop, as near as can be stated, including the value of the manure and seed, the labor of men, and teams at cost, or at current rate of wages,

Plowing,	$2 50
Harrowing,	1 00
Cultivating,	1 25
Seed,	2 00
Harvesting,	2 50
Thrashing,	4 25
Sowing,	0 25
	$13 75

I certify that the above is a true and correct statement, according to the best of my knowledge.

IRA APTHORP.

Sworn to and subscribed before me,
this 14th day of December, 1852,

O. TULLAR, *Justice of Peace.*

Surveyor's Certificate.

This is to certify, that on the 13th day of December, 1852, I measured and staked off a piece of land, on which was grown a crop of wheat belonging to Ira Apthorp, of Riga, in the county of Monroe, and the same contained two acres and eighty one rods, and no more.

M. M. HOWE

Sworn to and subscribed before me,
this 14th day of December, 1852,

O. TULLAR, *Justice of Peace.*

Harvesting and Measuring Certificate.

This is to certify, that we assisted to harvest the whole of the crop of wheat grown on the above piece of land, as staked off by M. M. Howe, and on measuring the same fairly and correctly, we found the yield to be 7,973 lbs., or 132 bushels 53 lbs., estimating 60 lbs. to the bushel. Which is at the rate of 53 bushels 9 lbs. per acre.

IRA APTHORP, *Owner.*

JAMES E. APTHORP, *Assistant.*

Sworn to and subscribed before me,
this 14th day of December, 1852.

O. TULLAR, *Justice of Peace.*

SPRING WHEAT.—CHARLES W. EELLS, WESTMORELAND, ONEIDA.

Cultivator's Statement.

The land upon which my crop of wheat was raised, had been a meadow for several years previous to 1851. In the spring of 1851, I plowed the field with a Michigan donble plow, ten inches deep by twelve wide, and planted it with corn without manure, the field of four acres averaged about 75 bushels per acre. I think the great secret in raising good crops is in plowing well and deep, we may look in vain for large crops by plowing after the old fashion, just skimming off the surface of the soil three or four inches. Some of my neighbors thought when I was plowing ten inches deep, that I should spoil my land and not get half a crop, and that the sward or surface of the soil was buried so deep that it would never see day light again; but in spite of all their prophecies, I plowed the same field last spring ten inches deep, and brought the old sward up to broad day light again, well rotted and mixed with the other soil, (and if some of the subsoil is brought to the surface I have no objections) which left it in good condition for a crop of wheat; the soil is a fine gravelly loam and in some places a little sandy.

The farm is situated in the town of Westmoreland, in the southern part, about three miles north of Clinton, and one mile south of Lardsville, P. O. There has been no manure used on the field for several years, and the crop was raised in my usual course of cultivation. On the 15th of May I sowed four bushels of spring wheat broadcast on the piece; two bushels of Siberian wheat and two bushels of Tea wheat prepared by soaking in strong brine, and mixing as much slacked lime as would adhere to it, the day previous to sowing; I do not harrow my land before sowing, after sowing I use a large two horse steel tooth cultivator the first time over, and then a fine toothed harrow; in this way the seed is covered deeper and I always get a better crop. The wheat was harvested Aug. 20th; about one fourth was reaped with a sickle, the rest cradled, was bound in bundles and set up in stooks to dry a few days, and then carted to the barn,

was thrashed with a machine Oct. 2d, and cleaned in a good fanning mill; the product was sixty-four bushels and thirty pounds on the piece, the piece contained two acres and eighteen rods and averaged thirty bushels and thirty-one pounds per acre.

Expense of Cultivation.

1½ days plowing,	$3.00
½ day harrowing,	1.00
4 bushels seed,	6.00
4 days harvesting,	4.00
Thrashing and cleaning,	5.25
Interest on land at fifty dollars per acre,	7.00
Total expense of crop,	$26,25
Value of straw,	$10.00
By 64½ bushels wheat at 9s	72.56
Value of crop,	$82.56
Total expense of crop,	$26.25
Profit,	$56.31

Westmoreland, Dec. 28, 1852 CHARLES W. EELLS.

(Proofs as required by Society.)

Oats.—E. M. Bradley, East Bloomfield, Ontario Co.

Statement of Management of Land, &c.

(Proofs as required by Society.)

The field upon which this crop of oats was grown, was in the spring of 1851 manured with about 40 loads of common barn yard manure per acre, plowed and planted to corn, and yielded 93 bushels of shelled corn per acre.

The soil is a gravelly loam about 12 inches deep, and rests upon a subsoil of red clay.

A few apple trees stand upon one side of the field, the ground lies gently undulating.

There was no manure applied to the present crop, 3 bushels of common white and black oats were sown to the acre.

The land was plowed the first of May, with single horse teams to the depth of nine inches, thoroughly harrowed and sown the 5th of May, broadcast and well harrowed in. No further culture.

Ripe and cut the first of August with a common hand cradle, and tied up in small sheaves, and set up in stooks and capped. When thoroughly cured, they were hauled into the barn and thrashed with a machine the 16th of August, and found to yield three hundred and forty-one bushels of good merchantable oats, equal to 93 bushels and one half per acre.

The expenses of the crop, were as follows:

Three days plowing hand and team, at 16s...	$6 00
One days harrowing, 16s.....	2 00
12 bushels seed at 3s.....	4 50
4 days cutting and putting up at 10s.....	5 00
Hauling to barn, 16s.....	2 00
Thrashing and measuring,.....	11 00
Interest on land at 75 dollars per acre,.....	19 25
Whole amount of expenses, ...	49 75
Cr. By 341 bushels of oats at 40 cts.....	$136 40
" 8 tons straw, at 16s.....	16 00
	152 40
Leaving a balance in favor of crop of,.....	$102 65

Equal to 28 dollars and 12 cents per acre.

ELISHA M. BRADLEY.

Clover Crop.—Fred. N. Tobey, East Bloomfield, Ontario Co.

The field on which said crop was grown, is a clay loam, and a crop has been taken from it annually for more than thirty years, without any apparent diminution of its productiveness, but rather an increase.

A uniform system of rotation of crops is pursued of corn, 2d barley, 3d wheat, 4th clover; remaining in clover two or three years. Manure from the barn-yard is uniformly applied to the

corn crop, at the rate of thirty loads to the acre, plaster is also used upon the corn and clover, at the rate of one and a half bushels per acre.

For many years this field has been plowed, uniformly eight and nine inches in depth. The manure is spread upon the clover sward, and plowed under the depth above mentioned.

This field was in wheat in 1851, and sown with cloverseed in the month of March, at the rate of six quarts to the acre. The last of June, 1852, a heavy growth of clover was cut from the field for hay, cut between the 25th of June and 4th of July; the after growth was grown for seed, and cut in the month of September following.

Expense of cultivation:

One and a quarter bushels seed at $5 per bushel,.....	$6 50
Sowing the same,.....	75
Four days mowing, $1 per day,.....	4 00
Three hands and team, one and a half days, curing and hauling to barn,.....	6 00
Thrashed by a machine at an expense of $1 per bushel,..	30 00
	$47 25

Value of crop:

By 30 2/6 bushels cloverseed at $7.50 per bushel,.....	$227 75
" value of hay after thrashing,.....	15 00
	$242 75
Deduct expenses,.....	47 25
Profits,.....	$195 50
or $29.54 per acre.	

The field contains, as attested by the surveyor, six acres and one hundred rods of ground, and the yield four bushels and thirty-five pounds per acre.

FREDERICK N. TOBEY.

East Bloomfield, Feb. 1, 1853.

(Proofs as required by the Society.)

Estimating the crop of hay at two tons per acre, which is believed to be less than the actual amount,

The value of the hay, at $8 per ton, is.....	$106 00
Expenses of securing hay at $3 per acre,.....	20 00
Interest on land at $100 per acre,.....	46 00
	$66 00
Total value of the products of six acres and one hundred rods,.....	$348 75
Total expenses including interest on land,.....	113 25
Nett profits,.....	$235 50

or per acre, $35.56.

F. N. TOBEY.

POTATOES.—PETER CRISPELL, JR.,

Hurley, Ulster County, on one acre and $\frac{17}{100}$ of an acre.

ULSTER COUNTY, ss.—Peter Crispell, jr., being duly sworn says, that he raised a crop of potatoes the past season upon land surveyed by Edgar B. Newkirk, and that the quantity of potatoes was 554 bushels, measured in baskets which had been measured by a sealed half-bushel; and that he was assisted by Patrick Seney in harvesting and measuring said crop, and that the statement annexed, subscribed by this deponent, as to the manner of cultivation, expense, &c., is in all respects true to the best of his knowledge and belief, and that the sample of the potatoes exhibited is a fair sample of the crop, the smaller ones having been sorted out

PETER CRISPELL, JR.

Sworn before me, this 22d day of Dec. 1852,

CORN'S NEWKIRK, JR., *Justice.*

The crop previous to the potatoes was corn, which had been manured before planting with about thirty-five loads of barnyard manure to the acre, and about one hundred and twenty bushels of leached ashes to the acre after planting the corn; no manure was used on the land for the potatoe crop, the land was

plowed and planted the first week in May; planted in hills about three feet apart, it was worked by passing through both ways with a cultivator, as soon as the rows could be followed, and when the tops were sufficiently large it was cross-plowed and hoed, and the crop was gathered in October.

Expense of cultivation:

Plowing land,	$1 00
Furrowing and planting,	2 25
Cultivating and plowing,	1 50
Hoeing,	1 25
Digging crop,	18 75
	$24 75

To this to be added the interest on land, and a proportionate expense of the manure applied to corn crop the previous year.

The potatoes were of the *yam* variety, and the land adjoining that planted with the yam, I planted three different varieties, the best of which did not yield more than at the rate of 300 bushels to the acre.

P. CRISPELL, JR.

FRUIT.

The committee on fruit report that there were on exhibition from

Messrs. ELLWANGER & BARRY, of Rochester, forty varieties of winter pears, including among their number Winter Nelis, Easter Beurre, Beurre D'Aremburgh, Glout Morceau, Doyenne D'Hiver Nouveau, Vicar of Winkfield, and others of the standard as well as of the newer varieties, all in very fine, and many in edible condition, giving to the society and its committee a better opportunity of judging of the relative merits of the varieties than was ever offered to them before. For this interesting as well as useful display, they award to Messrs. Ellwanger & Barry, a large Silver Medal.

Also from Messrs. ELLWANGER & BARRY, thirty eight varieties of Winter Apples, in very fine condition, to which is awarded a Diploma, and a copy of Downing's Fruits.

From T. G. Yeomans, of Walworth, Wayne County; six varieties of Apples, to which is awarded a copy of Barry's Fruit Garden, also, two varieties of Pears.

From J. H. Watts, of Rochester, five varieties of Apples, to which they award a copy of Thomas on Fruit.

From A. Frost & Co., of Rochester, twenty varieties of Apples, including very fine specimens of the standard winter varieties, to which they award a copy of Downing's Fruit.

From John S. Goold, of Albany, three varieties of Winter Pears, and two varieties of Grapes, all in good condition, to which they award a copy of Barry's Fruit Garden.

From P. Barber, Homer, New-York; ten varieties of Apples, to which they award a Volume of Downing's Fruits.

From Charles Kingsbury, of Homer: three varieties of Apples, to which they award a copy of Thomas on Fruit.

From N. & E. S. Hayward, of Brighton, Monroe County; twenty-six varieties of Apples, in fine condition, to which they award a Diploma and a copy of Downing on Fruits.

From Messrs. Wilson, Thorburn, & Teller, of Albany; three varieties of Apples, to which they award a copy of Thomas.

From Isaac Merritt, of Penfield, Monroe county; three varieties of Apples, to which they award a copy of Thomas.

From F. W. Lay, of Greece; ten varieties of Apples, to which they award a copy of Downing.

From N & E. S. Hayward, of Brighton; two varieties of Grapes, in finely edible condition, kept in cotton and sawdust, both equally good, for which they award Barry's Fruit Garden.

From Robert Brown, of Greece; twenty varieties of Apples, all in fine condition, to which they award a Diploma, and a copy of Downing's fruits.

From David Coonrad, Brunswick, Rensselaer county; one variety of Apples.

From HART MASSEY, of Watertown, Jefferson county; five varieties of Apples, in fine condition, to which they award a copy of Downing's Fruits.

From J. J. THOMAS, of Macedon, Wayne county; twenty varieties of Apples, in fine condition, to which they award a Diploma and a copy of Barry's Fruit Garden.

N. CRITTENDEN, Ithaca, 6 different varieties of Apples, Diploma and Barry.

VOLNEY BURGESS, East Chatham, Isabella Wine, five years old, Diploma.

Mrs. J. DENIO, Rome, Apple Jelly, very fine, S. S. Medal.

From C. GOODRICH, of Burlington, Vermont; specimens of a Seedling variety, supposed by some growers in Vermont, to be identical with Norton's Melon, but which is not Norton's Melon, and though not by any means equal to it, is nevertheless considered by the committee a good fruit; the committee award to Mr. Goodrich, for his attention, and for the opportunity offered to correct the mistake, a volume of the Society's Transactions.

HERMAN WENDELL, M.D.
CHARLES DOWNING,
P. BARRY,
A. SAUL,
} *Committee.*

FATTENING PIGS, BY JURIAN WINNE, BETHLEHEM, ALBANY CO.

The pigs exhibited were dropped in May 1852. They ran to grass, and were fed with five others of the same litter, on the milk of three cows, with feed enough to keep them thriving until fall, when they were fed with boiled pumpkins, mixed with shorts and other feed then soft corn, and afterwards hard corn in the ear, until the 13th of January, 1853; commenced weighing and measuring feed, and weighing pigs.

Jan. 13, No 1 weighed	299 lbs.	From Jan. 13th to 21st, 8 days,	
No. 2 "	261 "	fed 56 lbs. corn meal boiled,	
		and 1 bushel corn in the ear.	
	560	Value of feed.....	$1 50

22, No. 1 weighed.....313 "
No. 2 " 271
——
584

Gained in 9 days, 24 lbs.

31, No. 1 weighed.....325 "
No. 2 " .....290 "
——
651

Gained 9 days 31 lbs.

Feb. 7, No. 1 weighed.....347
No. 2 " 306
——
633

Gained 7 days, 38 lbs.

Feb. 8, Pigs killed, No. 1 weighed 290, shrunk 57 lbs.
No. 2 " 254, " 52 "

Gained in 25 days 93 lbs.

Fed from 21 Jan to 1 Feb, 11 days, 57 lbs scraps boiled and mixed with 57 lbs corn meal, ½ bushel corn, 1 peck of corn in ear..... 2 30

Fed from Feb 1 to Feb. 11, 8 days, 1½ bushels boiled corn..... 1 20

Their drink was milk, about four quarts per day..... 1 80

Whole expense of food in 25 days $6 80

JURIAN WINNE.

TREASURER'S REPORT.

DR. *Luther Tucker, Treasurer, in account with the New-York State Agricultural Society.* CR.

1851.				1852.			
Jan'y 21.	To balance from last year,		$4,544 14	By payment on account of premiums, A,		$6,354 26	
"	Cash received for membership at annual meeting,		120 00	"	of State Fair at Utica, B,	2,014 91	
"	" per. Horatio Seymour, Life member,		10 00	"	County surveys, C,	439 00	
"	" William Kelly, "		10 00	"	Trial of implements at Geneva, D,	733 08	
"	" George Dickey, N. Y. "		10 00	"	Library and museum, E,	461 13	
"	" Wm. B. Campbell "		10 00	"	Postage &c., F,	219 10	
"	For tickets sold at winter exhibition,		38 75	"	Incidental expenses, G,	318 49	
May 8th,	From State Treasurer,		700 00	"	Miscellaneous, H,	675 48	
August 2d,	Received for membership at Geneva,		35 00	"	Salaries and traveling expenses, I,	2,640 93	
"	Received at State Fair, viz:			"	Printing, K,	234 35	
"	For badges,	5,175 00		"	Rochester fair, 1851, L,	877 67	
"	tickets,	2,931 78		"	Winter meeting and exhibition, M,	104 50	
"	premium lists sold	8 63		"	Loan account, N,	4,000 00	
"	From George Geddes, Life member,	10 00					19,072 90
			8,125 41	"	Funds invested in bonds and mortgages,		6,000 00
Oct. 16th,	Cash of Paris Barber, for two memberships		2 00	"	Medals and plate,		165 00
1853.							
Jan'y 4th	To Cash of Ledyard Lincklaen, Life member		10 00				
"	Received for interest on funds invested,		412 06				
"	From temporary loans,		1,969 83				
"	For Mohawk bonds redeemed		3,000 00				
			$18,997 19				
	Balance due to treasurer,		75 71				
			19,072 90				

We certify that we have carefully examined the above account, with the vouchers accompanying the same, and that the same is in all respects just and true.

E. P. PRENTICE, *Acting President.*

Albany, February 8th 1852. B. P. JOHNSON, *Cor. Secretary.*

(A.)—Premiums.

W. A. Mills, fat cattle,	4	$25 00
L. Turner, "	5	23 00
Daniel S. Curtis, sheep,	7	10 00
Morison Ford, fruit,	8	2 00
E. R. Dix, barley,	9	10 00
Benjamin Aikin, flax,	10	10 00
S. J. Gove, swine,	11	5 00
Benjamin Enos, barley,	12	15 00
William Davison, "	13	13 00
C. W. Eells, wheat,	14	8 00
do grains,	15	23 00
E. S. Salisbury, peas and beans	16	20 00
E. W. Bushnell, rye and oats,	17	20 00
Israel Denio, butter,	18	15 00
Moses Eames, plan for dairy,	19	25 00
Peter Crispell, Jr., oats,	20	15 00
J. Mc D. McIntyre, sheep and oats,	22	13 00
William Rathbun, "	23	8 00
E. M. Bradley, corn, wheat &c.,	24	40 00
Milton Knickerbocker, fat ox,	27	10 00
Abram Laurence, corn,	28	3 00
Douw Van Vechten, grass seed,	29	5 00
Mrs. Holt, dom. man.,	30	2 00
Moses Eames, "	31	4 00
B. Hodge, fruit,	32	2 00
Daniel Deusler, implements,	33	2 00
James Lyon, fruit,	34	2 00
Luther L. French, butter &c.,	35	23 00
W. H. Richardson, poultry,	36	3 00
Herman Osborn, swine,	39	3 00
P. Downey, fat sheep,	40	10 00
Paris Barber, plan of dairy.	41	25 00
Richard Gregory, swine,	42	5 00
C. Rapp, "	44	8 00
J. D. Ledyard Jr., cattle,	45	8 00
Charles Snowden, sheep,	46	8 00
David Coonrad, buckwheat &c.,	47	18 00
B. McNeil, cattle and sheep,	48	49 00

D. R Jerauld, horse,		56	$10 00
Daniel S. Baker, fat stock,		57	25 00
Thomas A. Smith, tobacco		59	5 00
H. E. Smith, farm implements,		62	13 00
Miss L. D. Wheeler, dom man,		69	2 00
Jacob H. Holt, wheat,		70	5 00
Sanford Howard, essay,		71	20 00
D. B. Westfall, plowing,		73	5 00
H. G. Dickinson, fruit,		74	2 00
Clark & Gilman, hats,		76	5 00
S. R. Mott, geese,		77	2 00
Edwards & Platt, honey,		78	5 00
J. Upton, cattle,		80	12 00
W. C. Watson, Essay,		81	20 00
A. H. McLean, sheep,		82	13 00
Clark & Gilman, furs,		83	5 00
Joseph Harris, Essay,		84	20 00
Visscher Mix, let'g medals,		90	5 50
J. Howland, barley & corn,		93	8 00
H. B. Bartlett, oats,		99	10 00
William Webb, flowers,		105	3 00
Sepmour Foster, rye,		107	15 00
William Strever, horses,		115	5 00
A. & S. D. Freer, cider mill,		118	3 00
Brown & Mills, agricultural implements,		122	5 00
G. Waterman, let'g medals &c.,		132	51 00
V. Mix, lettering,		142	2 50
Robert Lovett, medals,		156	112 50
William Osborn Jr., cattle,		159	18 00
R. H. Van Rensselaer, cattle,		160	23 00
J. M. Sherwood	"	161	116 00
Seth Miller,	"	162	8 00
William Robson	"	163	3 00
Lewis F. Allen,	"	164	13 00
M. D. Bailey,	"	165	10 00
S. P. Chapman,	"	166	88 00
William N. Brown,	"	167	10 00
H. N. Carey,	"	168	5 00
A. Ross,	"	169	$16 00

G. F. Clark,	Cattle,	.....	170	$45 00
S. K. Williams,	"	.....	171	30 00
J. S. Eastman,	"	.....	172	33 00
D. M. Browne,	"	.....	173	8 00
R. M Hart,	"	.....	174	20 00
J. W. Collins,	"	.....	175	3 00
Wm. H. Sotham,	"	.....	176	105 00
Rawson Harmon,	"	.....	177	20 00
Marcus Zeh,	"	.....	178	15 00
John Freemyer	"	.....	179	30 00
Wm. R. Miller,	"	.....	180	15 00
John Browne,	"	.....	181	30 00
S. H. Church,	"	.....	182	15 00
L. H. Colbey,	"	.....	183	43 00
Luther Comstock	"	.....	184	5 00
J. H. Sherrill,	"	.....	185	10 00
Gaius Butler,	"	.....	186	10 00
Z. B. Wakeman,	"	.....	187	20 00
H. P. Potter,	"	.....	188	24 00
J. H. Caswell,	"	.....	189	20 00
John Capron	"	.....	190	10 00
C. S. Wainright	"	.....	191	73 00
J. C. Tiffaney	"	.....	192	33 00
John Muir Sr.,	"	.....	193	10 00
S. H. Hammond,	"	.....	194	6 00
J. B. Tuckerman,	"	.....	195	10 00
F. D. Blackstone & Co.,	"	.....	196	25 00
Charles Mason,	"	.....	197	11 00
S. M. Mason,	"	.....	198	40 00
Charles Downer,	"	.....	199	10 00
John Oliver,	"	.....	200	20 00
Bickford & Huffman,	"	.....	201	15 00
E. H. Morgan,	"	.....	202	15 00
C. G. Poole,	"	.....	203	20 00
John W. Williams,	"	.....	204	3 00
M. C. Remington,	"	.....	205	20 00
J. B. Burnett,	Horses,	.....	206	15 00
Clark & Jeroleman,	"	.....	208	10 00
Wm. A. Willoughby,	"	.....	209	10 00

John Bryden,	Horses,	.....	210	20 00
O. Gould,....	"	.....	211	15 00
H. B. Moore,	"	.....	212	8 00
William R. Kirby,	"	.....	213	5 00
J. N. Holmes,	"	.....	214	15 00
M. Leyden Jr.,	"	.....	215	15 00
R. S. Tracy,	"	.....	216	10 00
Horatio Curtis,	"	.....	217	20 00
M. G. Barney,	"	.....	218	10 00
Silas Hale,	"	.....	219	15 00
Barnes Davis,	"	.....	220	10 00
F. A. Spencer,	"	.....	221	5 00
D. W. Cristy,	"	.....	222	6 00
O. G. Pennell,	"	.....	122	25 00
Samuel Baker,	"	.....	224	30 00
Cornelius Schoby,	"	.....	225	30 00
Charles Peck,	"	.....	226	20 00
C. W. Ingersoll	"	.....	227	10 00
Mark Gill,	"	.....	228	10 00
Obadiah Howland,	"	.....	229	35 00
S. M. Mason,	"	.....	230	25 00
Truman B. Derrick,	"	.....	231	20 00
Ira Carrier,	"	.....	232	5 00
Daniel North,	"	.....	233	30 00
L. R. Proctor,	"	.....	234	8 00
John C. Wilson,	"	.....	235	15 00
J. M. Gillett,	"	.....	236	12 00
John F. Hager,	"	.....	237	12 00
E. Adams,	"	.....	238	15 00
Benjamin Ashley,	"	.....	239	20 00
H. Gould,	"	.....	240	8 00
Holliburt & Kimball,	Sheep,	.....	241	10 00
John Mc Donald,	"	.....	242	20 00
Daniel Kimball,	"	.....	243	10 00
William Robson,	"	.....	244	10 00
Richard Gypson,	"	.....	245	6 00
J. M. She wood,	"	.....	246	20 00
Chas. W. Eells,	"	.....	247	10 00
J. Haswell,	"	.....	248	6 00

Z. B. Wakeman,	Sheep,	.....	249	$88 00
S. H. Church,	"	.....	250	50 00
W. Eells,	"	.....	251	6 00
J. Haswell,	"	.....	252	20 00
Sharp and Taylor,	"	.....	253	32 00
John McDonald,	"	.....	254	20 00
William Miller,	"	.....	255	20 00
Ralph Wade Junr.,	"	.....	256	20 00
E. S. Barlow,	"	.....	257	20 00
James J. Jackson,	"	.....	258	10 00
Reed Burritt,	"	.....	259	6 00
A. Gage,	"	.....	260	14 00
S. B. Crocker,	"	.....	261	50 00
A. P. Wood,	"	.....	262	6 00
R. E. Keese,	"	.....	263	28 00
William Rathbun,	"	.....	264	22 00
D. S. Curtis,	"	.....	265	56 00
James Haswell,	"	.....	266	26 00
D. W. Curtis,	"	.....	267	38 00
A. L. Fish,	Swine,	.....	268	20 00
Z. B. Wakeman,	"	.....	269	15 00
H. Barnard,	"	.....	270	10 00
C. W. Eells,	"	.....	271	5 00
Levi T. Marshall,	"	.....	272	10 00
J. W. Curry,	"	.....	273	10 00
J. H. Curry,	"	.....	274	10 00
Henry Dodge,	"	.....	275	16 00
Morris Hecox,	"	.....	276	4 00
Joseph Jeffers,	"	.....	277	10 00
Otis Simmons,	"	.....	278	8 00
S. H. Williams,	"	.....	279	5 00
William Robson,	Poultry,	.....	280	3 00
T. J. Sizer,	"	.....	281	2 00
J. M. Sherwood,	"	.....	282	2 00
John W. Granby	"	.....	283	5 00
E. H. Bliven,	"	.....	284	5 00
L. D. H. George,	"	.....	285	3 00
R. Blackstone,	"	.....	286	3 00
Hiram Gilmore,	"	.....	287	2 00

Jacob Harper,	Poultry,	.....	288	3 00
John Dimbleby,	"	.....	289	3 00
Charles Sanford,	"	.....	290	3 00
John Ross,	"	.....	291	3 00
H. R. Farwell,	"	.....	292	2 00
D. P. Newell,	"	.....	293	18 00
F. P. Ward,	Jacks,	.....	294	30 00
H. H. Kellogg,	Mules,	.....	295	25 00
N. Culver,	Fruit,	.....	296	6 00
David Gray,	"	.....	297	8 00
C. Reagles,	"	.....	298	5 00
T. C. Maxwell, & Co.,	"	.....	299	12 00
John T. Stevens,	"	.....	300	2 00
J. H. Sherrill,	"	.....	301	12 00
D. Ayres,	"	.....	302	5 00
N. & E. S. Hayward,	"	.....	303	10 00
P. Brentnall,	"	.....	304	6 00
N. & E. S. Hayward,	"	.....	305	3 00
Thorp, Smith, Hanchett, & Co.,	"	.....	306	21 00
Morris Clark,	Flowers,	.....	307	1 00
S. D. Childs,	"	.....	308	12 00
C. E. Goodrich,	"	.....	309	3 00
Charles Spratt,	Vegetables,	.....	310	22 00
James Hallock,	"	.....	311	23 00
J. B. Kaye,	"	.....	312	12 00
N. Culver,	"	.....	313	8 00
C. E. Goodrich,	"	.....	314	3 00
F. W. Boyce,	"	.....	315	15 00
Almond Benjamin,	sugar,	.....	316	5 00
Joel Woodworth,	"	.....	317	10 00
Stephen Gifford,	"	.....	318	3 00
Curtis Coe,	Honey,	.....	319	5 00
J. S. Eastman,	"	.....	320	2 00
Willet Vary,	Cheese,	.....	321	15 00
Willard Green,	"	.....	322	20 00
W. A. Peebles,	"	.....	323	5 00
S. D. Mason and others,		.....	324	50 00
S. & D. Bonfey,	Cheese,	.....	325	10 00

A. C Clark,	Cheese,	326	15 00
Moses Eames,	"	327	20 00
James Parker,	Butter,	328	20 00
Amos Goulding,	"	329	30 00
William Robson,	"	330	10 00
A. H. Randell,	Churn,	331	5 00
J. P. Norton,	"	332	5 00
Charles Taylor,	Cheese press,	333	2 00
M. A. Hackley,	"	334	5 00
J. H. Manney,	Farm Implements,	335	80 00
B. H. Wakley,	"	336	25 00
D. S. Millard,	"	337	12 00
C. H. Toll,	"	338	6 00
S. R. Tracy,	"	339	20 00
Thos. D. Burrell,	"	340	50 00
J. G. Burritt,	"	341	3 00
Joshua Woodward,	"	342	10 00
Jacob Clapper,	"	343	10 00
Sam Cochran,	"	344	5 00
Seymour & Morgan,	"	345	20 00
Z. B. Wakeman,	"	346	3 00
J. H. Sherrill,	"	347	10 00
E. W. Badger,	"	348	25 00
Chester Clark,	"	349	2 00
J. Rapelje & Co.,	"	350	90 00
Hart & Mann,	"	351	5 00
P. Seymour,	"	352	35 00
Samuel Fuller,	Dom. Man.,	353	3 00
M. L. Hungerford,	"	354	10 00
S. A. Burton,	"	355	3 00
W. A. Jenkins,	"	356	3 00
S. Bailey,	"	357	3 00
C. D. Burlingame,	"	358	2 00
E. B. Dewey,	"	359	5 00
Harriet Coburne,	"	360	8 00
Elizabeth Pexton,	"	361	2 00
Freelove Wilcox,	"	362	1 00
John Bullard,	"	363	4 00
A. Barnard,	"	364	4 00

Lucy Newell,	Dom. man-,	365	$6 00
John Bullard,	"	366	8 00
S. A Bunce,	"	367	20 00
Freelove Wilcox,	"	368	8 00
Mrs. Gaius Butler,	"	369	2 00
A. Eggleston,	"	370	1 00
Samuel Collins,	"	371	4 00
Amos D. Mix,	"	372	4 00
Sarah K. White,	"	373	2 00
S. W. Abbott,	"	374	17 00
Chester Clarke,	"	375	22 00
Ziba Clarke,	"	376	12 00
Luman Shepard,	"	377	12 00
William C. Burrett,	"	378	1 00
Jeremiah Sweet,	"	379	3 00
Nathan Tanner,	"	380	8 00
Mrs. I. Kincade,	"	381	3 00
Eliza Poinier,	Shell work,	382	3 00
C. M. Rundell,	Wax work,	383	2 00
Dr. S. Heffron,	"	384	3 00
Mrs. S. P. Goodsell,	"	385	3 00
E. W. Hopkins,	Needle work,	386	5 00
Francis Lawyer,	"	387	3 00
A. Lanford,	"	388	2 00
Daniel Eells,	"	389	1 00
J. W. Brown,	"	390	1 00
E. Lewis,	Plowing,	391	4 00
Thos. Williams,	"	392	12 00
C. W. Eells,	"	393	8 00
John Brydon,	"	394	12 00
O. Howland,	Seeds,	395	7 00
David Conradt,	"	396	12 00
Jas. H. Sherrill,	"	397	10 00
Chas. W. Eells,	"	398	10 00
S. W. Abbott,	"	399	5 00
John Gilbert,	"	400	3 00
S. H. Williams,	"	401	4 00
John Brydon,	"	402	10 00
S. H. Church,	"	403	10 00

Chas. W. Eells, Seeds,	404	$10 00
Wm. Robson, "	405	8 00
Luman Shepard, "	406	8 00
Edward Harrison, Grist mill,	407	10 00
M. H. Lines, Harness,	408	10 00
G. L. Ackerman, Car brake,	409	3 00
S. S. Hitchcock, Scales,	410	3 00
O. Howland, "	411	3 00
J. H. Bushnell, Discretionary,	412	3 00
S. V. Tilton, "	413	3 00
Silas Dimick, "	414	3 00
Wells & Kendall, "	415	3 00
Joseph Swannell, "	416	6 00
J. & J. B. Lankton, Milk pans,	417	3 00
J. W. Gregory, Drain tile,	418	5 00
N. M. Dart, Wool,	419	3 00
McDougall & Penton, Boots and shoes,	420	5 00
G. Davis, Pipe box, &c.,	421	3 00
J. L. Burdick, Printing,	422	5 00
M. L. Hungerford, Dom man,	455	1 00
Elon Sheldon, Cattle,	462	52 00
George Sheldon, "	463	10 00
Vashti Campbell, Needle work,	467	3 00
Mrs. J. F. Jones, "	468	3 00
Jesse Williams, Cheese,	469	25 00
William H. Hill, Horses,	470	6 00
Mrs. C. McKnight, Dom man,	471	9 00
J. F. Ebensperger, Poultry,	472	3 00
H. D. Babcock, Needle work,	473	2 00
Mary Wolcott, "	474	3 00
Mrs. J. Sheldon, "	475	2 00
Mrs. J. Hackett, "	476	2 00
John Foster, Farm implements,	477	15 00
Hutchinson & Co., Dis'ct,	479	3 00
P. D. May, "	480	5 00
Mrs. I. B. Noyes, Dom man,	481	9 00
E. P. Prentice, Cattle,	482	91 00
E. M. Van Alstyne, Flowers,	486	8 00
Mrs. J. T. Van Namee, Dom. man.,	487	28 00

Mrs. J. T. Van Namee, Flowers,.....	488	$3 00
P. Seymour, Agr. implements,.....	500	20 00
Hinman, Higby & Co., "	501	5 00
Johnson & Bros., Discretionary,.....	502	3 00
Boyce & Avery, Horses,.....	503	8 00
M. P. Coons, Discretionary,.....	489	10 00
S. H. Ainsworth, Fruit,.....	504	1 00
D. Richardson, Cheese,.....	505	20 00
A. Frost & Co., Fruits and flowers,.....	506	40 00
H. B. Bartlett, Plowing,.....	507	6 00
William Rathbone, Sheep,.....	508	18 00
D. M. Crowell, Butter,.....	509	10 00
T. Wright, Poultry,.....	510	3 00
C. F. Crossman, Vegetables, 1851.....	511	11 00
" " 1852,.....	512	11 00
E. Taylor, Thomas & Co., Straw cutter,.....	513	10 00
J. S. & M. Peckham, Farm implements,.....	514	5 00
D. M. Crowell, Farm products,.....	515	20 00
A. Bartlett, "	516	13 00
Mrs. Lydia W. Bartlett, Dom man,.....	517	4 00
Mrs. L. W. Babcock, "	518	5 00
D. N. Bosworth, "	519	10 00
Mrs. W. O. Laird, Needle work, ...	520	5 00
William T. Aumuck, Discretionary,.....	521	3 00
A. C. Baird, "	522	2 00
M. B. Oviatt, Flour,.....	523	10 00
William Newcomb, Flowers,.....	524	23 00
A. Frost & Co., "	525	2 00
W. M. Bullock, Cattle,.....	539	20 00
Elias L. Barlow, Sheep, ...	569	8 00
Mrs. Henrietta Otis, Needle work,.....	570	3 00
J. F. Gurly, Sewing silk,.....	571	5 00
F. Weir, Dom man,.....	572	35 00
J. B. Morse, Vegetables.....	573	10 00
Howard & Co., Mowing machine,.....	574	30 00
Mrs. E. N. Rockwell, Needle work,.....	575	3 00
J. C. Hastings, Fruit,.....	576	10 00
" Flowers,.....	577	10 00
A. Van Bergen, Cattle,.....	578	5 00

Mrs. S. Bailey, Needle work,	579	$1 00
S. A. Aberman, "	580	3 00
Zenas Wright, Agr. implements,	581	9 00
Mrs. Ziba Clarke, Dom man,	582	10 00
W. R. Coppock, Fruit,	583	5 00
Lewis King, Discretionary,	584	3 00
Eddy, Dyer & Co., Agr. implements,	585	40 00
E. P. Marson, Vegetables,	587	3 00
A Weaver, Melons,	588	2 00
Mrs. J. T. Van Namee, Dom man,	595	2 00
Abraham Myers, Honey,	596	3 00
John W. Lewis, Dom man,	598	4 00
William Tracy, Fruits and Flowers,	599	8 00
H. L. Suydam, Fruit,	601	5 00
M. Van Deusen, Poultry,	602	2 00
D. Richardson, Cheese,	603	5 00
E. W. Wilson, Discretionary,	604	2 00
Andrew Passenger, Vegetables,	605	6 00
Theodore Backus, Grain,	606	2 00
Miss S. R. Vines, Needle work,	607	1 00
Cuyler Tanner, Churn,	608	2 00
R. H. Pease, Premium expenses,	611	40 00
" "	612	14 50
James Hallock, Vegetables,	614	4 00
C. Van Benthuysen, Printing labels, &c.,	618	329 81
S. L. Thompson, Wheat,	619	20 00
Visscher Mix, Lettering medals,	626	9 00
James H. Parker, Discretionary,	627	3 00
C. E. Goodrich, Expert. with potatoes,	628	100 00
Mrs. C. A. Glatt, Needle work,	629	2 00
Henry Vail, Fruit,	630	14 00
James Cantine, Cranberries,	631	8 00
C. F. Crossman, Melons,	632	6 00
James Wilson, Flour,	633	6 00
John W. Taylor, Cattle,	634	10 00
A. D. Grannis, Fruit,	635	2 00
Pease & Robbins, Smut machine,	637	10 00
C. E. Goodrich, Potatoes,	638	10 00
Miss R. E. Merritt, Shell work,	639	1 00

Wm. Connell, Needle work,	640	$5 00
V. Mix, Lettering medals,	648	2 00
George Waterman "	649	17 00
W. S. Potter, Poultry,	650	3 00
Erastus H. Pease & Co., Books for premium,	656	201 45
Jeremiah Sweet, Dom man,	657	6 00
C. S. Wilson, Fruit,	658	5 00
N. Brand & Co., Implements, 1851,	96	2 00
Levi Cozzens, Fruit,	659	3 00
William Mervine, "	660	6 00
J. D. Patterson, Sheep,	661	24 00
J. H. Dunbar, Hops and butter,	662	15 00
E. W. Badger, Implements,	663	5 00
John Bettridge, Sheep,	664	5 00
Henry Howe, Implements,	665	8 00
A. C. Johnson, Poultry,	667	2 00
Lyman Avery, "	668	2 00
		$6,354 26

(B.)—Expenses of State Fair.

Charles Kittridge, Expenses at fair, 1851,	97	$2 00
J. F. Strain, Refreshment tent,	423	25 00
Anson Benjamin, Dairy hall,	424	10 00
J. B. Burnett, Supt. horses,	425	9 00
I. Denio, at Dairy hall,	426	13 50
N. Stevens, at Vegetable tent,	427	1 50
Lyman Sherwood, Supt. sheep,	428	15 00
Perren & Fowler, use of table and sofa,	429	5 00
James H. Leddy, at Floral hall,	430	9 00
George Rhodes, "	431	3 00
E. B. Jones, "	432	10 00
C. & E. Comstock, Printing,	433	4 00
E. H. Roberts, "	434	7 50
Beardsley & Lyon, "	435	15 00
Dudly McCluskey, at Floral hall,	436	10 00
D. G. Bates, at Manufacturers' hall,	437	5 00
M. P. Coons, candles for night watch,	443	2 25
R. Northway & Co., Advertising, &c.,	444	17 25

T. R. McQuade & Co., Advertising, &c.,	445	6 25
Alfred Walker, expenses at Floral hall,	446	11 88
M. Leyden, Junr., Treasurer's office,	447	3 00
A. T. Snow, "	448	3 00
A. L. Johnson, "	449	6 00
W. C. Colling, "	450	3 00
W. H. Perry, "	451	25 00
L. H. Tucker, "	452	25 00
L. Tucker, sundry expenses,	453	5 25
George Lord, services at south gate,	456	9 00
M. Savage, "	457	9 00
James Avery, services at entry gate,	458	6 00
E. W. Hopkins, Domestic hall,	459	18 00
John Carter, at Floral hall,	461	94
J. F. Strain, Refreshments,	466	125 00
D. H. Davidson, Printing,	478	1 50
John F. Strain, Refreshments,	484	248 06
J. W. Osborn, clerk bus. office,	485	14 50
N. S. Wright, expenses at plowing match,	490	8 00
E. S. Barnum & Co., expenses of speaker's tent,	491	62
R. S. Doty, expenses of manufacturers' hall,	492	31 50
W. A. Groves, clerk,	494	16 25
A. Little, "	495	3 00
D. G. Bates, "	496	4 00
H. Wager, incidental expenses at fair,	526	1 38
Cornelius Veazie, sprinkling machine,	527	47 00
M. P. Coons, superintendent of machinery,	528	18 00
E. E. Platt, superintendent at fair,	529	15 00
John Holmes, cartage books,	530	2 00
Charles King, clerk hire,	540	20 50
S. A. Bunce, "	541	21 00
Daniel Dunne, "	542	14 50
John Parsons, "	543	40 00
John Springsteed, "	544	20 00
W. H. Bogart, "	545	25 00
E. A. Gage, "	546	30 00
A. B. Roberts, "	547	4 00
T. S. Morris, at gates,	548	10 00
H. N. Bill, clerk,	549	25 12

N.H.Williams, clerk,	550	$4 00
L. L. Lewis, "	551	25 50
W.M.Colburn, "	552	22 12
J. S. Reynolds, "	553	22 12
Thos. W. Valentine, clerk,	554	23 00
G. W. Platt, "	555	22 12
A. F. Chatfield, "	556	23 50
Eugene Stearns, "	557	16 00
A. E. Warriner, "	558	15 00
E. L. Comstock, "	559	16 00
Samuel Parsons, "	560	12 00
J. McLean, "	561	16 00
H. Tuthill, "	562	15 00
R. Thompson, "	563	14 12
Thomas J. Hyde, "	564	31 00
L. T. Marshall, "	565	30 00
A. White, expenses for clerks,	566	5 00
Robert Conway, "	567	3 00
J. F. Strain, refreshments,	568	149 55
J. Whiting, expenses at floral hall,	589	6 26
John Holton, "	590	8 50
Seward & Thurber, stationery,	597	16 00
C. Van Benthuysen, printing for state fair,	615	246 39
John Butterfield, expenses of fair,	641	141 63
John Butterfield, expenses of water hydrants,	646	13 75
Hugh Williamson, use of team on sprinkler,	647	20 00
Erastus H. Pease & Co., entry books and cards for State Fair,	655	55 60
		$1,728 41

(C.)—County Surveys.

Gurdon Evans, County Survey,	1	$150 00
J. Delafield,	133	50 00
J. H. Salisbury, Analyses, Essex county,	386	49 00
J. H. Salisbury, do do	609	40 00
Gurdon Evans, Survey of Madison,	116	150 00
		$439 00

(D.)—Expenses Trial Implements.

Vouchers.—No. 111, 127, 144, 145, 146, 147, 438, 439, 440, 441, 442, 460, 483, 497, 498, 499, 531, 554, ... $733 08

(E.)—Library and Agricultural Museum.

Vouchers.—No. 49, 67, 85, 87, 102, 109, 119, 121, 128, 130, 152, 153, 154, 535, 536, 538, 617, 620, 625, 645, 652, 653, ... $461 13

(F.)—Postage, &c.

Vouchers.—Nos. 68, 86, 100, 113, 124, 138, 149, 158, 534, 594, 622, 643, ... $219 10

(G.)—Incidental Expenses.

Vouchers.—Nos. 66, 88, 89, 101, 114, 126, 129, 140, 150, 553, 593, 610, 624, 642, 651,... $318 49

(H.)—Miscellaneous Expenses.

Vouchers.—Nos. 43, 50, 51, 64, 92, 98, 101, 112, 117, 454, 493, 600, 94,..... $675 48

(J.)—Salaries, Travelling Expenses, &c.

Vouchers.—Nos. 60, 61, 65, 75, 79, 95, 103, 106, 108, 110, 120, 125, 131, 135, 137, 139, 143, 148, 151, 155, 157, 532, 537, 591, 592, 613, 621, 623, 636, 644, 666,.....$2,640 93

(K.)—Printing.

Vouchers.—Nos. 52, 53, 616, ... $234 35

(L.)—Expenses of Rochester Fair, 1851.

Vouchers.—Nos. 2, 3, 6, 72, 123, 136,..... $877 67

(M.)—EXPENSES WINTER MEETING.

Vouchers.—Nos. 21, 25, 26, 37, 38, 54, 55, 58, 63,. ... $104 50

(N.)—LOAN OF $4,000.

Vouchers.—Nos. 91, 141, 464, 465.

SCIENCE AND AGRICULTURE.

Prof. JOHN P. NORTON'S *Introductory lecture before the Scientific Department af the Albany University, on Wednesday evening, January* 14, 1852.

The Professor commenced by saying, that in delivering the introductory lecture to the proposed course before the Scientific Department of the University, he was assuming an important position, a position which might with more propriety perhaps, have been awarded to some one more experienced than himself. But there was this assurance to comfort him, that the subject to be treated, was one of the highest interest and importance, commending itself to the attention and consideration of all who felt any anxiety in the advancement of the cause of science connected with agriculture.

Before proceeding to the consideration of the subject to which this series of lectures is to be devoted, a few words upon the general nature and ends to be attained by this Institution, are proper and called for. And first, what is the object to be attained?

Our system of common schools is one upheld, admired and eulogised by every civilized nation. We have advanced to a point never before known. Our motto is "universal education." But with all our boasted advantages, there is something yet lacking. The student may commence with the common school, and avail himself of academical instruction, finishing his course within college walls, and still an element is wanting. These helps are good as far as they go, but they do not go far enough for the practical student. They but open the door for farther research. The merchant,

farmer, manufacturer, engineer or chemist when he obtains his diploma upon graduation, finds himself but just set out upon the journey, all his work is yet to do.

It is not meant by this to disparage collegiate education, but only to say that it does not supply the wants of a thorough practical, or of a scientific man. The wonderful advancement of modern science has not been confined to the laboratory, but is made manifest in every department of life. Its results are seen and felt every where, we almost live and breathe by its aid; no one is of more advantage to a community than the close, investigating student. He will assuredly bring forth something of value to the world. True science is always useful, always noble, always elevating. It is therefore the interest of every people to encourage its advancement. We have thus far failed to do so to the highest extent. Our youth are compelled to cross the Atlantic, to seek the old world, to find the advantages they wish. There is no school among us, where they can go and find the facilities for prosecuting a more thorough and extensive education which are afforded by the schools on the continent. To furnish such an Institution, is one object in view in the establishment of this university.

And there is another, which is none the less important. It proposes to supply the demand not only for a thorough and extensive education, but also for a *practical* one. There is now no place where a mechanic, a manufacturer or farmer can go to prepare himself for his business. There is no school where an education for particular departments in life, can be obtained. We may have fine professional scholars, excellent theorists, but we want practical men. We want them educated with special reference to their various callings. We as a people are living and breathing on a world we know but little about. We are as men in the dark, groping our way with many a stumble and fall, where we might be guided by the clear light of science; and to aid us in this respect, to give us that practical knowledge so much desired, and so absolutely necessary, is the second object in view in the establishment of this Institution. Is it not a noble one? One worthy the fullest encouragement?

It is a project so vast and revolutionary that one might be considered as rash and bold in upholding it, but for two reasons, firstly, the people will sanction it; and secondly we are not alone in our support. The mention, as approvers, of such names as Peirce, Agassis, Mitchell, Bache, Hall, Dana and others, to them men at least equal if not superior to any in the country in their respective departments, is a sufficient guarantee of approbation, from men of science. Others are only waiting to see the way clear, to engage in the undertaking Such an Institution *must* and will be established somewhere. That is becoming more certain day by day. The State of New-York has the first offer. If she does not accept, some other will. During the present winter it is proposed to confine the scientific courses more particularly to science as connected with agriculture. By another season other departments will be added.

Let us now proceed to the direct consideration of the subject to which we are to devote our time and attention in this course of lectures. It may not seem necessary to say anything concerning the importance of agriculture. But it is certainly the fact, that it is apt to be underrated in a comparison with other branches of industry.

The products of our manufactories strike us as large, because we see the whole at a glance; and we are prone to overlook the humble products of the soil. But when we take these "humble products" in the aggregate; when those of towns, of counties, of States and of whole countries are presented to us; we begin to realize and appreciate their importance.

In an article by Dr. Lee, it is shown that some *two hundred and fifty millions* of bushels of bread-stuffs are needed annually, for the bare support of our population, saying nothing of the other demands and uses. The truth is, that in agriculture lies the reliable wealth of every country. It is said that nine-tenths of the capital of the world is embarked in it; no matter how we may regard it, all really depend upon the humble farmer; if he withhold his labor, and cease to toil, or Heaven blasts his crops, all classes feel the shock. Upon him rest the hopes of the whole.

He would say nothing here of those rural scenes the poets pen loved to picture; nor would he dwell upon Cincinnatus, called from the plow to the helm of State, for we had all heard of him repeatedly in other ways; but he did glory in the farmer as presented in this practical view; the main dependance of society as a whole. He gloried in his character; his self reliance. He was the sheet anchor of our institutions.

That well known New England poet, OLIVER WENDELL HOLMES, had described the true and noble farmer, in the following beautiful manner. He quoted it as an elevated and faithful picture.

Clear the brown path to meet his coulter's gleam;
Lo! on he comes, behind his smoking team;
With toil's bright dew-drops on his sunburnt brow,
The lord of earth, the hero of the plow.
First in the field before the reddening sun,
Last in the shadows when the day is done;
Line after line along the bursting sod,
Marks the broad acres where his feet have trod.

These are the hands whose sturdy labor brings
The peasants' food, the golden pomp of kings;
This is the page whose letters shall be seen,
Changed by the sun to words of living green;
This is the scholar whose immortal pen
Spells the first lesson hunger taught to men;
These are the lines, Oh Heaven-commanded toil!
That fill thy deed, the charter of the soil.

True to their homes these faithful arms shall toil,
To crown with peace their own untainted soil,
And true to God, to freedom, to mankind,
If her chained ban-dogs faction shall unbind.
These stately forms, that bending even now
Bowed their strong manhood to the humble plow,
Shall rise erect, the guardians of the land,
The same stern iron in the same right hand,
Till Graylock thunders to the parting sun,
The sword hath rescued, what the plowshare won.

Does the farmer now occupy the position his importance demands? No! And why not? Because as a class they are not as well prepared for their business, as are men of other pro-

fessions for theirs. They are not educated to make improvement, and to advance through the agency of knowledge applied to practice. This evil is not confined to this country. It is so in Europe; in Holland, and in Friesland, for example, there is among the farming community a deep rooted prejudice against any new improvements, any innovation upon old customs. In the latter, an educated gentleman imported some improved kinds of farming implements, and compelled his workmen to use them. But he soon found them almost constantly out of order. Taking an opportunity, and watching, he perceived that the workmen broke them, so strong was their feeling against their introduction and use. A like feeling exists also in France, and in Durham, England, they now pursue the same mode of cultivation, using the same implements and the same rotation that they did eighty years ago, and with only this difference, that they get *smaller crops*. The Scottish highlands afford still another instance, producing scarcely sufficient to sustain life.

But we can come nearer home than this. We can find numerous instances all over the country, where, like the worn out tobacco plantations of Virginia, our lands produce much less than when they were unbroken by the plow. As a general rule, in many districts, they do not produce any greater quantity, and are in not so good a condition, as when their cultivation was first commenced. There are, it is pleasing to reflect, some exceptions; but they *are* "exceptions." The farmers are awakening, but they are not fully awake. Their advancement is slow, and the great reason why this is so, is because of that deep rooted *prejudice* already referred to. So long as men will hold to views and customs, because their fathers did so before them, so long will the onward movement of agriculture, science, and the upward progress of the farming community, be slow and uncertain. In England at this day, you may see six horses before a plow, with one man to drive, and another to hold the plow! And all this is done for no other reason than that their fathers have done so, and they will therefore follow the same mode, although one or two horses and one man could do the work just as well.

Examples are selected from Great Britain, because this is known to be the best farming country in the world; and to show that even there prejudice yet holds men in bondage, to a great extent. Crops are sometimes continued there year after year upon the same soil, by some of those stubborn followers of olden rules, for ten or fifteen years. And so in this country, we can find cases where rye, for instance, is sown and re-sown until the ground is so completely exhausted that it will not give back the seed; then they let it lie awhile, until it is partly recruited, when the same process is again gone through.

There is, however, some shadow of excuse for the farmer in not making more rapid advancement, for often even those who would do so, are led astray. The guides of the farmer are here to blame: some of the agricultural papers; many of them are not fitted to give him instructions; some even of those that make great pretences to scientific knowledge. One of them, for instance, has published, lately, an article supporting the idea that wheat turns to chess. Now chess is a wholly different thing, a plant of a different genus botanically. If wheat can turn to chess, it can turn to Canada thistles or anything else. Another of these journals contains an article, which takes the ground that *shade* is all that is necessary to give nourishment, and ensure large crops! According to which theory, if we could take a blanket and cover up our fields from the noxious rays of the sun, it would do away with all necessity for any further research, and any such Institution as this which is now commencing. The Professor cited also other instances where these journals were at fault, and thus were even those farmers who would improve, led astray.

The lecturer then compared our natural advantages for improvement with those in Europe, giving us the preference, for one reason: because we had no feudal system, and hence lands must be often changing hands. This prevented a continued system from being followed for any great length of time.

Science does not condemn practical experience. With the latter alone, we are certain of an existence, while without it, no matter how good our theory, we are not. Experience is indis-

pensable. Of the two, then, theory and practice, if but one can be had, we must certainly select the latter. But we should have them united. Without the theory, without a system developed upon certain great fundamental truths, our progress must be slow. Our only way, in the absence of such general principles, is to experiment for ourselves; and our neighbor must do the same for himself. And, when all this is done, still nothing is established, no foundation is laid, no principle demonstrated, which shall be of benefit to us under different circumstances, or to the community at large. A farmer, who cultivates one kind of land, writes to a paper that he has adopted a certain mode of culture for a particular kind of crop and has met with success, and hence recommends it to all, as the result of his experience. Another, with soil totally different, is highly incensed at this, for he has tried the same mode and failed. He therefore writes and contradicts it. Now this strife might go on for ever, unless science stepped in and settled it, just as she settles it in the case of chess already referred to. She tells us soils are different in their composition, one requiring for instance lime to produce a wheat crop, and another not needing any such application. Hence two farms cannot, under ordinary circumstances, be cultivated exactly alike. The only way is to establish general principles by the aid of science, and not trust to individual experience.

A change is now coming over the minds of farmers. They are beginning to see that a scientific knowledge of the soil, is necessary. And as this truth becomes more and more impressed upon them, as they introduce more and more practical results among them, the farmer's progress will be sure. He will become a *thinking*, as well as a *working* man. His character will grow, as well as the profits of his land. He will be candid, inquiring, and disposed to receive the truth. He will not reject anything, simply because it is new. And, by this, the pleasure of the business will be increased. As we understand, so do we enjoy, just in that proportion. The farmer's life, as it generally is at the present day, is a matter-of-fact business, promising little attraction for a mind which loves to search for truth and seek out knowledge, but when connected with science, it at once assumes new colors. It then becomes a study, a study of interest. Beauty lies all around

the farmer. He is in league with nature. Her attractions are unfolding continually. He finds that nothing is dead, in the sense he has heretofore attributed to that word. How delightful for him to study her changes. The germination of the seed, for instance, the unfolding of beauty presented in that alone, would repay weeks and years of study Seeds will and have lived thousands of years, under certain conditions. At the end of that time expose them to the right temperature, place them in a favorable position, and they sprout and germinate as well as they would have done the first year of their existence. In this manner we can take seed-wheat from Egyptian catacombs, and raise in our times, and on our soil, the same plant that flourished on the banks of the Nile. Nothing is more interesting than to follow out these investigations, as science points the way.

But how is the farmer to be able to know all these things? Must he become a chemist, a geologist, a mineralogist? Not by any means. But he can easily become acquainted with the leading principles. These are plain and simple. Then he must have a sincere desire to learn, this must govern him in his thoughts. He must seek for improvement with a candid eye. Thus he can fit himself to judge between the false and the true. To go farther, for him would be useless. No man can become a thorough chemist or scientific man, without years of patient study and investigation. To become such, should not be the end or aim of the farmer. The scientific man should devote himself mainly to his profession, and the farmer should do the same. But he could obtain sufficient scientific knowledge through the medium of schools for the advancement of agriculture, to enable him to make his business an interesting one, and one of greater mental elevation as well as pecuniary profit. For deeper investigations he would rely upon the professed scientific man, and would use the results. Thus would the two work harmoniously. To inculcate these truths would be the object of his lectures.

The Prof. illustrated further by presenting the instance of the germination and growth of a plant, and the immense study presented to the student of nature, in order to comprehend and de-

termine the varied laws of its being. Showing it was the work at least of several life-times, and then something would remain to be done.

Having spoken briefly of the inducement to an investigation by a mind of noble aspirations, and of the spirit longings it created to burst the fetters that confine the soul to this sphere, he concluded by remarking that he had presented the obstacles to our mind. He had no doubt they would yet be overcome. Some seemed to consider that science would yet triumph so far as to become able to create life. To this height he did not anticipate we should ever rise. That, in his opinion, could never have its origin but in one source. But anything short of that he believed might and yet would be accomplished through scientific agency.

And scientific agriculture was of interest and importance to all. Benefits arising from its influence would be felt by all classes in society.

Prof. Goadby's Introductory Lecture to his course on Entomology.

The Prof. was very happy to see so many ladies present, and apologised to them before commencing his lecture proper, saying he trusted they would remember that he was not placed here to deliver a "popular" course of lectures. They would be different in character from those delivered in the Female Seminary. He was here to instruct young men who had come among us to get an education, and he should endeavor to be true to his business. Should hope to say something which should be instructive and of practical value, if it did not please their fancy. In the present lecture he should claim the latitude usually allowed to introductories, and give us a little of this, and a little of that and a little of something else, he hardly knew what himself. And he trusted he would be able to say something of advantage to those under his tuition, and not unacceptable to the ladies.

Unlike the gentleman who had preceded him, the subject he was to treat was one not only small but really minute, but yet of a character strictly valuable and important, and one to which, if we are to pursue it, we must give our entire attention. From the want of size of the objects we are called upon to consider, it is evident that we must call in some extraneous aids, if we would derive any advantage from an accurate knowledge. And here our aid is the microscope. In astronomy they bring in as aid the telescope; and those who look through it have always reason to wonder; strange emotions are kindled within them. They are struck with the immensity of space, and impressed with a deep sense of the grand, the magnificent and sublime. For my own part I have ever been ready to believe anything of the revelations made in science, by astronomy. It is true, for the telescope tells us so

that what we call the polar star, is made up of two stars; that the pleiades are a collection; and that those nebulous patches which illuminate the broad belt of heaven can be resolved into innumerable worlds, too great in number for the human mind to grasp the idea. I believe that I have some comprehension of measurement, generally, but I confess that the only way I can gain any idea of the immense distance, the vast space of those stars from us, is by calling to mind the fact, that light which travels at the rate of many thousand miles an hour, is *three millions of years* coming from the nearest of them to us. All these wonderful things, has the telescope made known to us. But wonderful and magnificent as they are, they must yield to what the *microscope* has accomplished. When we say "the microscope," we mean not *a* microscope, but *the* microscope, the reason for which will soon be apparent.

A ray of light passing through the glass, water or any medium differing in density from the air, suffers what we call refraction; that is, it is bent from its course. It is again bent from the second course, upon its emerging from that medium into the air upon the other side, and preserves its parallelism. It passes on in a line parallel to that by which it entered the refracting medium. Take for instance common glass, and we have an example of this effect. (The Professor drew upon the black board a figure of a double convex lens, and made apparent to the class, by practical demonstration, what he intended to convey.)

But let us lay aside the common glass, and taking a prism, suffer a ray of light to pass through it, we find that ray, white originally, is separated into seven rays, of different colors, and those seven are the primary colors which we find in the rainbow. And here is something we have to contend with. Glass will always have a tendency to decompose light, and resolve it into these constituent parts, and hence when we have our instruments constructed of common glass, they are good for nothing. All things viewed through these are tinged with a halo of the prismatic colors, all is confused and indistinct.

But He who from the beginning of time has never failed in the construction of anything, has given to man and animals a perfect

achromatic glass, by which all these difficulties are obviated. We have visual organs, by which we are able to see day light as such; we see it white. And we can distinguish all the various colors, the one from the other. We do this by a power resident in man, through means of the optical instrument, perfect in its construction, which the creator has given us. A glass which possesses the power of obviating this difficulty of the prismatic spectrum, is called achromatic. This is derived from two Greek words *a* (signifying *without*,) and *chroma* (signifying *color*.) The word microscope is also from two Greek words, meaning to view small things.

In 1773 a poor but well educated and enlightened English gentleman, thought to experiment, in endeavoring to construct an optical instrument after the form of the human eye—for this is the most perfect optical instrument of which we have any knowledge. That it is one, may be seen at once by examining the eye of an ox. You find imprinted upon the retina, which is the expansion of the optic nerve, a beautiful picture of surrounding objects, just such as are seen in the daguerreotypist's camera. (The Professor here drew a diagram of the human eye upon the board, and showed the manner in which the rays of light fall upon and are conveyed through it until they reach the retina, where they form the picture already alluded to; they pass through six media in going from the outside to the retina.) This gentleman in carrying out his idea, took common flint glass, and crown glass, their densities and hence refracting power being different, just as are the media of the eye, and placed them together so that they should fit accurately the one to the other.

He took a double convex lens of one material, and then fitted to each side, a plano-convex lens of another material. So that he had three media through which the rays must pass, and these media fitted closely, as they are in the eye, making them as it were, solid. This was the construction of the first object glass ever made.

In those days the wants of the naturalist were never thought of; he must succumb to the astronomer. It was out of the question to get any man to spend a moment of time, much less any

thought, upon the construction of an achromatic glass for a microscope. Not until later days has this important instrument been regarded in its true light; an instrument of even more value to man than the telescope. The latter is a very inquisitive instrument, it asks the stars a great many questions, but the stars do not answer! And the moon too, but we know but little concerning her! So does the microscope, this little tube we have here, ask questions, but it does not ask them in vain. *It will have an answer.* It asks most pertinacious questions, and persists and perseveres, until it does get a reply, until it gets *the truth, the whole truth and nothing but the truth.* Provided you use *the* microscope and not *a* microscope. That is, the microscope which is made in imitation of the eye.

The Prof. spoke somewhat in detail of the various instruments constructed by different individuals, concluding that subject by remarking that to say the least, those manufactured by our countryman, Mr. Spencer of Canastota, Madison Co., were equal to the best in the world. (This was received with renewed cheers.) He did not know what principle they were constructed upon, for he had never asked, because he did not wish the secret. If that gentleman had made a discovery by which he could construct glasses, he was entitled to the benefit of that discovery, and he (Prof. G.) would not wish to know the process for fear he might in an unguarded moment divulge it, and do something detrimental to the interests of the inventor.

He then explained the manner of computing the magnifying power of a microscope; which is by dividing 8 inches by the focal distance of the glass; supposing the focal distance to be $\frac{1}{4}$ of an inch, it magnifies 32 times.

In considering the subject of which the following lectures are to treat, it will be necessary in the first place to pay attention to the general classification of insects, and shall do so because, a few days since one of the students asked me what text books would be necessary, I felt completely bewildered; a large number of works have been written, containing a great deal of valuable information; I told him I would defer a reply then. I have since exam-

ined several works with reference to this point, and I now tell him if he is present, and all others of the students that I have been perfectly astonished at the confusion I found; and now with a view to have a foundation for what we are to do, we must have a classification into different orders, and sub-divisions; we use of necessity what are called technical terms. But this is not confined to the pursuit of this science, or any or all sciences; we use technical terms every way; here is one family and here is another; the one we call *Smith*, that distinguishes them from the other family. But perhaps there are a dozen children. So we name one *John*, another *Charles* and so on, thus establishing their individuality. And that is what we do here; we have in the first place our whole family, they are *all Smiths*. (Laughter and cheers.) And then we subdivide them. Take another illustration. You and I go to London to attend the world's Fair; as we are walking along, you say to me, who is that gentleman just in front of us? An American. An American? But from what part of America, for that is a great country; from North or South America? He is from New-York. From New-York city? No, from New-York State. Well then, from what part of the State? From the city of Albany. But that is a large town containing many inhabitants. What is his name? His name is Johnson. Yes, but there are a great many Johnsons, what is his given name? Why sir, *that is* B. P. JOHNSON; and there you have our worthy Secretary! (Cheers long and loud.)

The Professor then closed by giving the four divisions or groups into which Cuvier divides all animals, which are, *Vertebrata*; or those which have a back bone; *Molusca*, or those which have soft bodies; *Articulata*, or those which have a jointed locomotive organism; and *Radiata*, or those which radiate from a center like the star fish.

CURING AND PRESERVING BEEF AND PORK.

Value of Solar evaporated salt as compared with the best foreign salts, determined.

SEC. N. Y. STATE AG. SOC.:

DEAR SIR,—In the course of some investigations on the manufacture of common salt, I have had occasion to inquire into its uses, the adaptation of different kinds to particular purposes, and into some of the injurious effects which are alleged to come from the use of bad salt. Many of these being of a character to interest agriculturists, I have thought it might not be improper to present them to the notice of the State Agricultural Society.

One of the most important uses of salt is in preserving meat, butter, cheese, &c., and for this it seems indispensable. How it operates to produce this result and the precise changes which it effects in the substances preserved, are not fully understood. Liebig in his work on Agriculture and Physiology, p. 295, says, "salts of mineral acids with alkaline bases, completely arrest decay when added to decaying matter in sufficient quantity, and when their quantity is small, the process of decay is protracted and retarded." "Fresh flesh over which salt has been strewed, is found after twenty-four hours swimming in brine, although not a drop of water has been added; the water has been yielded by the muscular fiber itself, and having dissolved the salt in immediate contact with it, and thereby lost the power of penetrating animal substances, it has on this account separated from the flesh. The water still retained by the flesh contains a proportionally small quantity of salt, having that degree of dilution at which a saline fluid is capable of penetrating animal substances."

"This property of animal tissues is taken advantage of in domestic economy, for the purpose of removing so much water from

the meat, that a sufficient quantity is not left to enable it to enter into putrefaction."

Liebig in his "Researches on the Chemistry of food and the motion of the juices in the animal body," in discussing the properties of the juice of flesh, soups, &c., at page 109 and onward, says "when 1lb. of lean beef, free of fat and separated from the bones, in the finely chopped state in which it is used for beef sausages or mince meats, is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid after boiling briskly for a minute or two, is strained through a towel from the coagulated albumen and the fibrine, now become hard and horny, we obtain an equal weight of the most aromatic soup, of such strength as cannot be obtained even by boiling for hours from a piece of flesh. When mixed with salt and the other usual additions, by which soup is usually seasoned, and tinged somewhat darker by means of roasted onions or burnt sugar, it forms the very best soup which can in any way be prepared from 1lb of flesh."

"The influence which the brown color of this soup, or color in general, exercises on the taste, in consequence of the ideas associated with color in the mind (ideas of strength, concentration, &c.) may be rendered quite evident by the following experiment. The soup colored brown by caramel is declared by all persons to have a much stronger taste than the same soup when not colored, and yet the caramel in point of fact, does not in any way actually heighten the taste."

"If we allow the flesh to boil for a long time with the water, or if we boil down the soup, it acquires spontaneously, when concentrated to a certain point, a brownish color and a delicate flavor of roast meat; if we evaporate it to dryness in the water bath, or if possible at a still lower temperature, we obtain a dark-brown, soft mass, of which half an ounce suffices to convert 1lb. of water, with the addition of a little salt, into a strong well flavored soup."

"The tablets of so-called portable soup, prepared in England and France, are not to be compared with the extract of flesh just mentioned; for these are not made from flesh, but consist of gel-

atine, more or less pure, only distinguished from bone gelatine by its higher price."

"From 32lbs. of lean beef, free from bones and fat (8lbs. dry meat and 24lbs. of water), there is obtained 1lb. of true extract of flesh, which, from its necessarily high price, can hardly become an article of commerce, but if the experience of military surgeons agrees with that of Parmentier, according to whom "the dried extract of flesh, as an article of provision in the train of a body of troops, supplies to severely wounded soldiers, a restorative, or roborant, which, with a little wine, immediately revives their strength, exhausted by great loss of blood, and enables them to bear the transportation to the nearest hospital,"* it appears to me to be a matter of conscience to recommend to the attention of governments the proposal of Parmentier and of Proust.

"Now that the composition of the extract of flesh is somewhat more accurately known, it ought to be easy for every well informed apothecary to distinguish the genuine from the false. Of the true extract, nearly eighty per cent is soluble in alcohol of eighty-five per cent, while the ordinary tablets of portable soup rarely yield more than four or five per cent. The presence of kreatine and kreatinine, the latter of which is instantly detected by the addition of chloride of zinc, to the alcoholic solution, as well as the nature of the salts left on incineration, which consists chiefly of soluble phosphates, furnishes sufficient data for judging of the quality of the true extract of flesh."

"I consider this extract of flesh as not less valuable for the provisioning of ships and fortresses, in order to preserve the health of the crew or garrison, in those cases where fresh meat and vegetables are wanting, and the people are supported by salt meat."

"It is universally known, that in the salting of meat, the flesh is rubbed and sprinkled with dry salt, and that where the salt, and meat are in contact, a brine is formed amounting in bulk to one-third of the fluid contained in the raw flesh."

* See Proust, Annales de Chimie et de Physique, third series, Vol. 18. p. 177.

"I have ascertained that this brine contains the chief constituents of a concentrated soup or infusion of meat, and that, therefore, in the process of salting, the composition of the flesh is changed, and this, too, in a much greater degree than occurs in boiling. In boiling, the highly nutritious albumen remains in the coagulated state in the mass of flesh, but in salting, the albumen is separated from the flesh; for when the brine from salted meat is heated to boiling, a large quantity of albumen separates as a coagulum. This brine has an acid reaction, and gives with ammonia a copious precipitate of the double phosphate of ammonia and magnesia. It contains also lactic acid, a large quantity of potash, and kreatine, which although I could not separate that body from the large excess of salt, may be safely concluded to be present, from the presence of kreatinine. The brine, when neutralized by lime, gives, after the salt has been crystallized out, a mother liquid, from which, after some time, when alcohol and chloride of zinc are added to it, the double chloride of zinc and kreatinine, so often mentioned in the former part of this work; is deposited."

"It is now easy to understand that in the salting of meat, when this is pushed so far as to produce the brine above mentioned, a number of substances are withdrawn from the flesh, which are essential to its constitution, and that it therefore loses in nutritive quality in proportion to this abstraction. If these substances be not supplied from other quarters, it is obvious that a part of the flesh is converted into an element of respiration certainly not conducive to good health. It is certain, moreover, that the health of a man cannot be permanently sustained by means of salted meat, if the quantity be not greatly increased, inasmuch as it cannot perfectly replace, by the substances it contains, those parts of the body which have been expelled in consequence of the change of matter, nor can it preserve in its normal state the fluid distributed in every part of the body, namely, the juices of the flesh. A change in the quality of the gastric juice, and consequently in that of the products of the digestive process, must be regarded as an inevitable result of the long continued use of salted meat; and if during digestion the substances necessary to the transformation of that species of food be taken from

other parts of the organism, these parts must lose ther normal condition."

"In my experiments on the salting of meat, I used at first a species of salt which subsequently proved, on examination, to contain a considerable proportion of chloride of calcium and chloride of magnesium. I was induced to examine the salt, by observing the brine obtained from meat salted with it, contained only traces of phosphoric acid. The external aspect of the salted flesh sufficiently explained this unexpected fact; for it was covered as if with a white froth, consisting chiefly of phosphate of lime and phosphate of magnesia. The earthy salts of the sea salt had entered into mutual decomposition with the alkaline phosphates of the juice, producing phosphates of lime and magnesia, of which only very small quantities could be dissolved in the acid brine."

"In the use of a salt rich in lime and magnesia, there may thus be a cause which renders the meat salted with it less injurious to the system. For it is plain, that when, along with such meat vegetables are eaten which are rich in potash, (and this is the cases with all esculent vegetables,) the conditions are present which determine the reproduction, during digestion, of the deficient alkaline phosphates. That these latter salts may actually be formed under such circumstances, is shown by the analysis of milk, a fluid rich in alkaline phosphate, compared with that of the fodder or food of graminivorous animals, which last contains no alkaline phosphates, but phosphates of lime and magnesia, along with salts of the alkalies, with other acids"

The work from which the above quotation is made, is one of great interest to all who study the subject of domestic economy and presents a clearer view of the subjects upon which it treats, than has before been given, although the distinguished author says that it is very incomplete, and can only be taken as an introduction to the vast field upon which it has entered.

As illustrative of some of the points in it, I may state a few of the facts brought out last year * in the report of a committee of

* The investigation commenced Feb. 23, and closed April 30th, 1852.

the British House of Commons, "appointed to inquire into the contracts, and the mode of making them, for the supply of meat provisions for the use of Her Majesty's Navy from the year 1845 to 1851, inclusive, and to the rejection of preserved meats; and into the causes which have led to the receiving into the government stores, and to the issuing for the use of Her Majesty's ships on foreign service, certain preserved meats, which have proved to be unfit for human food; and into the means by which an occurrence so prejudicial to the public service may most effectually be prevented."

In this examination Thos. T. Grant, Esq., comptroller of the victualling department of the Navy, testifies that a comcomplaint was made in November, 1851, from a vessel on the West India station, "that the salt meat issued to the crew of Her Majesty's ship Alarm," invariably weighing considerably less than half its original weight after boiling, more particularly the beef, four-pound pieces of which seldom weigh more than from one pound two ounces to one pound and a quarter; one piece yesterday, with two bones in it, actually only weighing nine ounces, as noted in the log; I beg leave to state to you, that every care being taken not to boil the meat longer than is absolutely necessary, the surveying officers, the senior lieutenant and master, are of opinion that this enormous shrinkage is attributable to the old and inferior quality of the meat; the beef we are at present using is dated October 1847, and was received from Halifax victualling depot, on the 15th day of September, 1851; the pork was examined January 1850, and was received from the Jamaica victualling depot, on the 28th day of February, 1851, &c., &c., Mr. Grant states that this "must have been very old meat which had been left in the depot in Halifax Yard, and had been subject to a tropical climate for a considerable time, and we find that under those circumstances meat will lose at least one-half, and even more than that from being exposed to the climate, and being subject to the influence of the pickle. The earliest complaint, so far as I have been able to ascertain, that was made upon this subject, was in 1788, in that year there were several complaints made by the seamen of the different ships, of the shrinkage of the meat after boiling, and the Admiralty of the day directed that experiments should be made at the Deptford yard for the purpose of as-

certaining what the loss in the meat was at different times and at different ages; and I find from the report that was then made, that meat which was only cured a few days, lost a third in weight, and according to the time that it remained in pickle it lost in proportion. I have here a statement of different experiments which have been made for the purpose of ascertaining what the meat really did lose. According to the present regulations, whenever the meat loses one-half in boiling, the men are supplied with an additional half-pound. Now we find that that is subject to very great abuse; in the first place the object of the cook is to boil away the meat as much as possible, because he obtains a larger quantity of what is termed slush, for which he is paid, and in some ships he is paid a very large amount, sometimes as much as £125, and £150, for his slush. On the other hand the seaman if he finds the meat boils away to half a pound, claims the additional half pound, but in fact he does not take up this half-pound, he saves it, and is actually paid at the rate of 4d. a pound for it, and the result is, that during the last two years we find that we have paid the seamen upwards of £50,000 for their savings in salt meat alone.

I have also pamphlets which were published by Mr. Cooper, and by Messrs Donkin, Hall and Gamble, in which they state, that on careful experiments the loss of the meat is exactly that which bears out the various experiments that we have made. They say the first experiment was made on the 27th of May 1813, on a fifty-six pounds keg of captain's beef, which had been about a month in pickle, weighing 56 pounds, It was then boiled by steam and the bones were carefully separated. The meat was suffered to cool and it was then found to weigh 35 pounds, deficiency 21 pounds; being, viz: bones 5 pounds 6 ounces, waste in boiling 15 pounds 10 ounces, total 21 pounds; being about 40 per cent loss. The second experiment was made on the 24th of July, 1813, on a half barrel of prime mess beef, weighing 100 pounds net; which was salted in October 1812. On weighing the same prior to cooking it was 103 pounds. It is presumed that this increase of 3 pounds, arose from the meat being saturated with the pickle. It was then boiled as in the foregoing experiment, the bones carefully separated, and the meat suffered to cool, it was then found to weigh 47 pounds 8 ounces, deficiency

52 pounds 8 ounces; being, namely, bones 9 pounds 10 ounces, waste in cooking, 42 pounds 14 ounces; total 52 pounds 8 ounces, being more than one-half loss, &c. &c.

To the question whether he attributed this deterioration to the admixture of other descriptions of meat with the British meats, he answered "No; I think from the experience the officers at the victualling yards have of foreign meat they would be quite alive to that; they subject the meat to the examination which I have described, and they also subject the meat to the test of boiling, which is a sure test, but which I must say causes the greatest discontent on the part of the contractors."

To the question whether salted meats supplied under foreign contracts have been equally good with those supplied under British contracts: he answers "I must say the meat supplied from Hamburgh in particular and the Prussian meat and some of the French meat is quite equal to any meat supplied in the United Kingdom. I have my doubts as to the general quality of the American meat; we have been rather unfortunate with our American meat; we find now that there are very different qualities of American meat, some of it may be considered inferior meat at least not as good as our meat, but some of it is certainly first rate quality"

"I may add we have obtained information from several of the large ship owners both at Liverpool and London, Green & Wigram and parties of that description, and they invariably state that the merchant seamen prefer the American meats to those of the United Kingdom; and I must say that our report from ships generally speaking, with reference to Hamburgh meats and Dantzic meats, and French meats, as far as they have come to office, give the preference to those as compared with the meat of the United Kingdom.

"The first foreign meat was introduced into the service in 1847."

"The Hamburgh pork and the Dantzic pork, is said to be better fed than the Irish; it is decidedly a better fed, and larger description of meat, and at the same time it does not boil away even

so much as the Irish meat; that is the result of the meat now under delivery, we find that it actually does not boil away a third, which is the amount which we allow for the receipt of meat. This is the case with pork as well as beef. It is to be ascribed to its being thinner meat, and to its being better fed. The observation we have made is this, that the best looking American meat, that is to say, the finest grown and the fattest meat, loses most in boiling. It is impossible to see finer looking meat, than that meat as it comes out of the casks, but it will not stand the test of boiling; I suppose on account of the large quantity of fat that is attached to it. We have reason to believe that a good deal of this meat, under certain brands, is fed upon acorns, which gives it that fat appearance, but it has not the solidity which our meat has."

Capt. A. Milne, R. N., one of the Lords of the Admiralty, testified that "the average boiling away of meat in the first year is generally about thirty-three per cent., and it goes on increasing the second year to above forty per cent., and in the third year it is generally more than one-half. Has been in the Navy thirty-three years. No more complaint of pork diminishing in boiling, since there has been free trade in provisions, than formerly. The pork is considered remarkably fine, and is looked upon as superior to what we had before. We have had American, and Dantzic, and Hambro' and Brittany pork." "There have been no complaints of the pork or beef of any of those countries."

James Selfe, Esq., testified that he was ship's husband for Mr. Green, and that he had the entire charge of victualling twenty-seven ships, and had been thus engaged for thirteen years. To the question, whether there were many complaints of the boiling away of salt meats, his answer was "yes, we find that the cooks boil the meat too much; we give them the slush as a perquisite; there is a great deal in the way of boiling meat; we insist upon the cooks putting the meat into cold water, but if you don't watch them very narrowly, they will put it into hot water, which destroys the meat; if you put the meat into cold water, it gets heated gradually, and the internal part becomes boiled to the same degree as the external part; but if you put it into hot

water, the outside is boiled, and the inside remains badly cooked." "If the American meat was not attended to, it would boil away more than other meat, because there is more fat."

The shrinkage on the best meat is from 22 to 25 per cent.
" inferior " 35 " 40 "

"We purchase the best salt provisions that can be got in market, India beef and India pork, and latterly we have given our crews American beef, in preference to Irish or English; we find it much superior." "We have purchased American beef for five or six years; and latterly when American meat of such a quality as we purchase was not in market, we have sent Irish beef; but our people do not like it so well; they complain of it, in fact the Irish meat is not so good now as it was seven or eight years ago." "The Irish pork is superior to the American, for sea purposes."

Edward Ede, Esq., assistant storekeeper at the Deptford victualling yard, on his examination stated his opinion of the quality of British and foreign cured meat, that he "preferred Hamburgh meat, up to the examinations of last year; we have not had any this year, but this year certainly the palm has been carried off by the American meat branded "Abburger." "This is beef, not pork; the best pork we receive is certainly the Hamburgh pork and the Dantzic, especially the Crasemann's and Koofman's brand, Hamburgh. The best Irish meat, and which is the nearest to the quality of the Hamburgn meat, is cured at Limerick, by Oake, or Shaw and Duffield."

Memoranda of the late comptroller of the victualling, dated in 1846, were also handed in to this committee. The comptroller states that the Deptford officers reported that the "experimental American salt beef was equal to the Irish salt beef, &c., &c." He also says, "since the alteration of the tariff, American salt meat has become an article of great import into this country, but the pork shrinks so much in boiling as not to be held in estimation. Much of the beef, however, is of a quality not inferior to the best Irish cured meat. There is, at the same time, a much larger quantity imported that is deep colored and hard, and of a very inferior quality, so much so as not to be fit for use in the navy."

"Of the American beef imported into this country that from the Ohio, Arkansas, &c., which comes through New Orleans, is generally of inferior quality, while that from the States on the shores of the Atlantic is, on the contrary, of excellent quality, particularly that imported from Baltimore. The meat cured at the latter place is generally from store cattle, driven across the Alleghany mountains, and fattened in the rich pastures on the coast."

Another memoranda dated in 1847 says that "previous reports on the quality of American beef were so satisfactory, as to have induced the purchase of 2,000 tierces last year; and a report has been received from Commander Murray, of the 'Favorite,' stating 'that the American beef was superior to any that he had ever seen issued to a ship's company, and that it was of a fine quality, and lost very little in boiling.' No report has yet been received on the quality of the American pork purchased for experiment, except that it was considered, at Deptford, when received, to be of a superior quality."

The test by boiling is one much relied on at the victualling yard at Deptford. When there last summer, the Commandant, Capt. Dundas, allowed a copy of one of their reports of an examination of beef, to be made for me, and as it will give some idea of the manner in which the trial is made, I insert it here.

Extract from the Deptford's officers' report, dated Deptford victualling yard, April 15, 1851:

"We have made three comparative trials of American and Irish cured beef, by boiling each until properly cooked, and the following are the results:

			Raw.	Boiled.	Loss.
			lbs oz	lbs oz	lbs oz
No. 1, ribs boiled 2 hours,	Irish,	Wood's Brand,	8 10	5 6	3 4
	American,	Hough's, "	8 9	4 2	4 7
" 2, sirloin, " 2 "	Irish,	Wood's, "	8 11	6 4	2 7
	American,	Hough's, "	8 10	4 8	4 2
" 3, brisket, " 2 "	Irish,	Wood's, "	8 7	6 3	2 4
	American,	"	8 4	4 12	3 8

In the above experiments, both sorts of meat were put into cold water when placed on the fire, and the water on reaching the boiling point, was kept in a sim ering state until the meat was dressed. We do not think the American meat requires less time in cooking than the Irish, for on trying a piece of the former, weighing about eight pounds, with an hour and a half boiling, it was almost raw in the middle, and when properly cooked, it is harder and not so nice in flavor as the Irish.

"We repeat what we have already stated in our reports of the 27th ultimo, and 8th instant, that the appearance of the American meat in its raw state is excellent, and we have no doubt those who provide for the mercantile marine are pleased with the sight of the article. We would suggest it as being probable, that the cattle from which the meat in question was procured, had been after a severe winter, sent in a lean state into rich pasture, and consequently so rapidly fattened, as to prevent the proper consolidation of the muscular fiber and fat, so that the process of boiling reduces the weight by evaporation, more than the meat of cattle fed less rapidly."

Edward Ede, Esq., assistant store keeper at Deptford, informed me that in the trials of beef in 1852, the Irish lost more than thirty per cent., the American twenty-eight or twenty-nine, and Hamburgh and English, twenty-five per cent.

The presence of chloride of calcium and chloride of magnesium in salt have generally been thought injurious; they give to salt a tendency to deliquesce or run in wet weather, and frequently give to it a sharper and more pungent taste. All unite in considering them an inconvenience, but it will be perceived that Liebig in the article quoted, looks upon them as decidedly beneficial, and in the Gardeners' Chronicle and Agricultural Gazette for Feb. 8, 1845, in a report of the Agricultural Chemistry Association, several points of general interest to agriculturists are mentioned as having been inquired into, both analytically and practically. The eighth of these is "practical farmers, in dairy districts, having remarked that certain varieties of salt most favored the storing of their cheese; this subject has been inquired into, and those varieties which contain most of the deli-

quescent chlorides, have been found to be those which in practice answer best. This is rather remarkable."

In the course of my inquiries, I have frequently found the most violent and groundless prejudices against particular varieties of common salt, existing in the minds of intelligent and practical men. The distinguished Dr. Samuel Mitchell, of New-York, in 1803, wrote a letter to Dr. Caldwell, on the injurious properties of Liverpool salt. This letter was published in the Medical Repository, vol. 7. He says, "In the course of trade between America and Great Britain, it has become the misfortune of the United States, to be visited with frequent cargoes of salt from Liverpool. This article is prepared on the western coast of England, where coal for fuel can be bought at a low price, by boiling ocean water or briny spring water, saturated with the rock-salt of Northwich, in large and shallow pans of iron. The native mineral salt of Cheshire, is carried coastwise to Lancashire for that purpose. The salt which remains after the water has been evaporated by force of fire, is called *pan salt*, and is a medley of saline substances. It is very different in its qualities from the pure muriate of soda; for whereas that is the most agreeable of the antiseptics, and ranks among the strongest; this mixture of impurity and trash is remarkable for possessing the reverse of those valuable properties. Indeed, this *artificial* salt is exceedingly unlike the salt formed by the evaporation and crystallization, which sea-water *naturally* undergoes in the warmer latitudes. There is a remarkable difference between that vile and heterogenous mass sold in the American ports, under the name of *blown salt* or *Liverpool salt*, and the efficacious and excellent article brought from the Canaries, Cape de Verde and Bahama Islands.

"The frequent and intimate connexion between the American ports of New-York, Philadelphia, Baltimore, &c., and the town of Liverpool, has rendered it very convenient, in the course of commerce and navigation, to throw in salt at the latter place for ballast, or part of a cargo, to the American market. The cheapness of fuel from the neighboring coal mines in Lancashire, enables the salt boilers to sell their manufacture cheap; and hence it happens that ships about to come to America, either empty, or with

a light freight, find it worth their while, as they must have ballast, to buy salt for the purpose instead of stones, sand, iron, or the like. If the salt clears itself, after paying prime cost and duties, it will answer as well as other ballast. If it does more than this, it is preferable."

"From this concurrence of events, it has happened that the sea ports of the United States have been largely supplied with British home-made salts, from Liverpool. Almost two-fifths of all the foreign salt consumed in the United States comes from this part of England. And a material more pernicious in its consequences could hardly be introduced among our people. The importation still continues, and the time is come to apprise and warn them of the evil. It is highly to be wished that never a bushel more of that mischievous commodity should be consumed in America. The trade in it ought to be broken up. If the consumers of salt were aware of the bad quality of that from Liverpool, there would be little probability of their continuing to use it or of purchasing a bushel more.

"Liverpool salt is very imposing to the eye. It is in a fine powdery form, of a tempting color, and possesses all the exterior qualities which allure purchasers, and invite a ready sale. The manufacturers possess in an uncommon degree, the art of preparing their ware most handsomely for market.

"It has accordingly been bought with avidity, by the American merchants and traders, and transported to many into the interior parts of the United States. The snowy whiteness of the material itself, its ready solubility in water, and the mildness of the pickle which it forms, had brought Liverpool salt into general use for preserving the beef, pork, and butter, of the middle and southern States.

"The loss of property and of life consequent upon the use of this kind of salt, is prodigious. Experience year after year, has proved it to be incapable of preserving our beef from corruption. Often has this important article of food been found to be tainted, the very autumn in which it has been packed in barrels. More frequently has the beef stunk abominably in the magazines and warehouses of New-York and other cities, on the return of warm

weather the ensuing spring. And a more common and lamentable case is, that in the progress of summer's heat, aided by a southern latitude, the beef when exported to the West Indies or elsewhere, degenerates with a still more rapid process of putrefaction.

"The inspectors who repack our beef, the merchants who own it, and the masters of vessels who carry it abroad, are all witnesses of these facts.

"But the waste and destruction of property are not the worst consequences of trusting the preservation of beef to Liverpool. salt. The exhalations from such masses of animal flesh, as they undergo corruption, and turn to rottenness, are remarkably noxious. They poison the surrounding air by their deleterious presence. They have sickened and destroyed repeatedly in New-York, the inhabitants, who were unfortunate enough to be in the neighborhood of such nuisances, and enveloped in their unwholesome atmosphere. Pestilence and desolation have prevailed in the vicinity of these putrifying remains of oxen, bulls and cows.

"The misery endured by cities is also incidental to ships, within the sides, and under the hatches of a vessel, septic vapors are copiously engendered, and most highly concentrated. Existing there in their greatest virulence, they excite fevers of the most fatal forms that afflict the human race, and thus, from the nature of their cargoes, can it be understood wherefore vessels that carry beef, &c., to the West Indies are commonly sickly, and by the time they get back, are in an odious and intolerable state of uncleanliness. Too pestilential from the venom engendered within them, to be admitted to port, they are proper subjects of *alkaline purification*, by which alone can they be rendered sweet, safe, and wholesome.

"Thus, besides the sacrifice of property, we find that the employment of Liverpool salt, in pickling beef, leaves it liable to corrupt; and the consequences of this corruption are pestilential exhalations, stirring up yellow fevers, and other malignant distempers in the neighborhoods of cities and vessels, where the bodies of these herds of slaughtered meat cattle happen to be deposited. Indeed, the mischief accruing to housekeeping, to city police, and to navigation, from this source, almost exceeds enumeration.

"There is another evil, however, which ought to be mentioned; that is, the disorders of the stomach and intestines induced by eating semi-septic beef and pork. It is well known to each master of a house, as well as to every master of a ship, that sometimes their salted provisions become tainted or partially spoiled. The expediency or necessity of the case obliges the family or crew to subsist upon this unsound and unhealthy food. Dysenteries, fluxes, scurvies, and similar ailments, are the natural ailments to this kind of diet. Sometimes among the customers of a country storekeeper, the extent of the sales of his British salt can be traced in the region around, by the offensive and disgusting condition of their meat tubs, and the prevalence of bloody fluxes, and other intestinal disorders in those who draw their sustenance thence.

"The loss of property, health, and life, which results from the vitiated and corrupt state of our beef, whether consumed at home or exported to foreign parts, is likewise consequent upon the use of Liverpool salt, or other British boiled salt, to pickle our *pork*. But as pork, from its nature, is less prone to corrupt and emit venomous gases than beef is, and is brought in smaller quantity to market, there is proportionably less damage sustained from its putrefaction, and less injury from its exhalations. But pork as well as beef suffers all that it can suffer in deterioration, from the weak and adulterated material wherewith it is salted. And thus the vessels in the West India trade grow foul and sickly. Their crews contract yellow fevers from the causes existing within themselves, and then the blame is cast upon foreign dominions.

"The butter of the New-York market has also been rendered worse, if not absolutely spoiled, by the same kind of salt. Beguiled by its fine and showy exterior, the citizens have used it extensively in our counties, famous for grazing and dairies. In many cases it has supplanted the old fashioned coarse or sun made salt. Wherever this substitution has been made, it has been with a pernicious effect. The butter so salted does not keep so well, loses its agreeable flavor, and acquires rather a disagreeable scent. It is less prized by those who are nice in selecting this important article of housekeeping, and it consequently brings a lower price to the

person who makes it. Thus agricultural industry is deprived of a part of its reward, and this will probably continue until the buttermakers discontinue altogether this very unfit and unsafe material. The difference between butter put up with this salt, and with the natural chrystallized salt is so great, that our wholesale and retail grocers can distinguish it at once by the smell, on piercing or opening a firkin. The sweet flavor and nice odor which pure sea-salt gives, is altogether wanting in that which is seasoned with the other, &c., &c."

In a report made to the minister of agriculture and commerce, of France, in 1847, upon salt ponds, (*les marais salants,*) and the manufacture of solar salt; it is stated that a favorable prejudice has long kept up the character of the salt made on the west coast of France. It was thought preferable to that made on the Mediterranean coast, about Marseilles, for salting fish. The latter was said to be too active, too corrosive. Now the results of a series of experiments made with great care, from 1827 to 1830, by order of the Minister of the Interior, by a commission composed of men of the most eminent scientific attainments, M. M. Thenard, Gay Lussac, Berthier, &c., show that in comparative experiments made with salt from Marseilles, from the Atlantic coast of France, and from St. Ubes, all succeeded equally well. They even remarked that codfish prepared with Marseilles salt, acquired new qualities with age, and kept better, and it appeared that the Americans, easier suited, or more knowing than the French, gave willingly the preference to Marseilles salt. They take advantage of the return of their vessels, to load them; and the strange sight is seen of French fishermen going to St. Ubes for their supplies of salt, while the Americans come to France for theirs. The only possible difference there can be between the two kinds, is that the Marseilles salt is most free from dirt, and foreign substances.

Last summer when at Dieuze, in the eastern part of France, where there is an extensive manufactory of salt, and where the salt is of an excellent quality, and very pure, I saw a large pile of blue clay, and on inquiring its use, was informed that it was

for making *grey salt.* By mixing this clay with the pure white salt, in the process of manufacture, they could produce an article demanded by some of their customers, who seemed to think the excellence and strength of salt depended on the darkness of its color.

The amount of provisions damaged, and spoiled every year is enormously large. I have no accurate statistics to show the amount with precision, but both packers and dealers unite in the statement, that the losses from these causes are very great. In the fall of the year, it not unfrequently happens that great quantities of meat becomes tainted after it is salted, and before the salt *strikes*, and beef in particular, even when not otherwise damaged, is darker colored for being packed in warm weather. Beef packed in casks made of green wood, is sometimes made quite black on its surface, from this cause. Pork packed in March or April, is very liable to rust. And it is not unusually the case, that with an over anxiety to preserve meat, persons add an extra quantity of salt, this of itself is a serious injury to it, and will give it a black color. But upon these various points, I am glad to be able to present the results of the experience of an inspector and packer of beef and pork, who has been engaged in the business for many years past, and who has coming under his observation annually, from 25,000 to 50,000 barrels. C. Seguine, Esq., No. 518 Washington Street, New-York, has very obligingly furnished to me answers to the following questions.

New-York, *Feb* 15*th* 1853.

Mr. Geo. H. Cook,

Dear sir—Accompanying this I send you answers to your queries transmitted along with yours of the 19th ult., with which I also received the report named.

I have found it a matter of more difficulty than I had supposed, to find time to give the subject the attention that its importance demands, and am fearful that you will be much disappointed in the matter and manner of my replies. The qualities that go far to make a successful business man are not such as would qualify him to *generalize on paper*, in my own case I have felt it to a painful

degree, and I hope that in this case you will take the will for the deed, and be enabled to glean something from the papers that will assist you.

It is just twenty years ago since I entered this business, during which period I have inspected annually from twenty-five thousand to fifty thousand barrels of provisions, besides cutting, packing and curing many thousands of hogs. My time and attention has consequently been more taken up with the management of a large business than with the *chemistry of the pork trade*, but as a matter of course, observation has been forced upon me, and what are *facts* to me would be theory to others of little or no experience.

I beg you will use these notes or throw them aside as you think best. If I make any request at all it will be that in case you do use them you will put them in better shape.

My only hope is that I may be of some use to you or others. If it should prove so it will much gratify

Yours respectfully,

C. SEGUINE.

Question 1. What is the method of salting and packing beef which you approve?

Ans. The most approved method of curing and packing beef is first to "strike" it in open vats or hogsheads, i. e. pack loosely and cover with a pickle only, the pickle to be as strong as possible, and to contain saltpetre in the proportion of three ounces to the one hundred pounds of beef. It is in this first process that the red or cherry color is given to beef, and if not done in the first instance, no after application of saltpetre will supply the deficiency of color. As the market value of the article is greatly influenced by its color, too much care cannot be exercised to obtain this desideratum in perfection, and the process indicated above is decidedly the best. A week or ten days in the vats is sufficient to draw out the blood and fix the color, when it is packed with about twenty-five pounds of salt to the hundred pounds of beef, and pickled with a strong new pickle. With proper care beef packed in this manner will keep for the longest voyages.

Question 2. Also of pork?

Ans. Pack with a light quantity of salt say thirty pounds per barrel of two hundred pounds, and pickle with a strong pickle. No saltpeter is required for pork; repack early in the spring with forty pounds of salt and a new strong pickle; hams should be packed with from seven to fifteen pounds of salt; the lesser quantity will make the finer ham; pickle with a strong pickle, adding about a pint of molasses and six ounces of saltpeter for every hundred pounds of ham. All pork intended for smoking should have saltpeter applied to give the lean a lively cherry color; as also pork packed for the English market, the use of saltpeter being general with the English packers on all descriptions of pork.

Question 3. Is there more difficulty in preserving one than the other?

Ans. Beef is more readily cured than pork but is less tenacious of cure, or more liable to spoil by exposure to the heat of summer. That it cures the more rapidly of the two, is I think evident from the fact that it absorbs or dissolves salt with much greater rapidity. The comparatively open or spongy nature of beef, containing a large percentage of blood and watery juices, readily yields to the action of salt which is brought in contact with every particle of the beef. Pork from its more compact fiber absorbs or combines with salt more slowly.

Question. 4. What is the effect of putting too much salt on meat?

Ans. By hardening or constricting the fiber, the juices of the meat are *expelled* instead of combining with the salt. The meat is thus left to the caustic action of the salt, and is rendered hard and colorless (black) possessing neither the flavor nor nutritive qualities of meats properly salted. Beef always loses in weight immediately after salting, but if a proper quantity only is used, it regains that loss and afterwards increases in weight by absorption, three or four per cent; if over salted it will exhibit no increase. This is owing to its hardness causing enlargement of the *cells*, if I may use the expression, preventing the meat by capillary attrac

tion from holding or retaining its juices. Beef properly salted retains its bulk, oversalted it becomes shrivelled. Pork oversalted will not gain so much in weight as if properly salted, i. e. it will not absorb and hold as much pickle.

Question 5. Why is saltpeter used and what is the effect of using too much?

Ans. Saltpeter is used to fix or give a natural cherry red color to the lean of meats, it has no visible effect on fat; too much imparts a fiery dark red color to beef, detrimental to its sale and injurious to its flavor.

A French chemist of celebrity asserts that its use in the cure of meats is the principal cause of scurvy in those with whom salt meats are a principal food, as sailors on long voyages. So I will leave this question to the chemist to whom it properly belongs, remarking that my observation has been drawn rather to the effect of saltpeter on the appearance of the article; appearances having more to do with its value as merchandise, than the intrinsic nutritive quality.

Question 6. Have you ever observed the rind of pork to be partially or wholly destroyed when a sufficiency of salt had been used?

Question 7. What is the cause of this? Is it peculiar to some kinds of salt?

Ans. The rind of pork as a general rule becomes softened by the action of pickle, it is one of the sure indications of the length of time the pork has been barrelled. I have seen the rind entirely decomposed or softened in pork packed with a sufficient quantity of salt, after being in barrel two years, but accounted for it on the ground that the pork was packed from very young hogs, such as are known as *spring pigs*, which would give an age of nine or ten months, and in which case there was an evident want of bone and fiber owing to the rapid and extreme fattening.

The want of sufficient salt and lying in weak pickle is in most all cases the cause of such decomposition, and pork in this condition is generally tainted.

I have not noticed any difference in the action of different salts in this respect.

Question 8. Have you ever observed beef to be blackened by the wood of casks?

Ans. Casks made of unseasoned wood containing much sap, I have noticed will give a dark color to beef lying in immediate contact against the wood but not extending further into the cask of meat.

Question 9. Have you ever observed it to take place from an excess of salt being used?

Ans. See answer to No. 4.

Question 10. Does the color of the beef depend upon the animal, ox, steer, cow, or heifer, or upon the age, condition, feeding &c.,?

Ans. The color of beef after salting is somewhat influenced by condition and feeding, but not to an extent to call for remark.

Question 11. Have you observed any ill effect from the use of fine salt in packing?

Ans. Understanding you as meaning *Onondaga "fine salt,"* I answer that I have observed "ill effects" from its use. Beef packed with fine salt I have generally found hard and dark colored, with a whitish deposit on the surface having the appearance of lime. This latter effect is almost invariable and is rendered the more perceptible in the article of smoked beef which is always first subjected to soaking in fresh water to soften it and draw out surplus salt and afterwards hung up and smoked in the smoke house eight or ten days; when taken out, it presents a dry burnt appearance on the surface, a mixture of brown and white, on cutting it open it is found to be black and dry possessing little flavor or substance. Kanawha fine salt is liable to the same objections made to the Onondaga fine salt. It is now used principally for dry salting or "bulking" pork in the west. Taking the receipts of pork in New Orleans as a criterion, about one-sixth of the pork packed at the west is "cured in dry salt." Pork so treated is

generally of an inferior quality, and soon becomes "rusty" or rancid.

The Liverpool ground * salt is equal to the best Turk's Island and none of the objections made to our domestic fine salt can be made to this. It is not used much for pickling purposes, but is largely employed in the curing of fine hams and bacon in the New-York market. The "fine*" or "factory filled" or "blown" is not employed in the curing of meat to any extent.

Pork packed with fine salt after a few months is found to have become changed in its appearance, the fat is turned brown and the lean black, and this in so marked a degree as to be confounded with rusty pork. Rusty or rancid pork is produced by the article being exposed to the action of the dry summer's heat after the pickle has been lost from the barrel for some time.

Question 12. What effect has overheating animals just before slaughtering on the quality of the beef?

Ans. No very marked effect; it is rendered somewhat flabby and rather more difficult to cure.

Question 13. What effect has it on meat to pack it before the animal heat is out?

Ans. This is the principal cause of the tainting of beef after packing in tight casks, hence the advantage of the mode of curing or *striking* in open vats as recommended in my answer to your first inquiry. Pork the same.

Question 14. Have you observed differences in salt meats which could be attributed to the kind of salt used?

Ans. See answer to question 11.

Question 15. Is there any difference perceptible between pork or beef cured with the Onondaga solar evaporated salt and Turks' Island salt?

* Liverpool ground salt is known in England as "common salt;" it is coarser than boiled salt, and is made in brine not boiling hot. The "fine" or "factory filled" is boiled salt and is known in the English market as "stoved" or "butter salt."

Ans. There is no difference perceptible in either beef or pork o packed and cured.

The best beef received in New-York is packed at Chicago, Illinois, where they pack each season beginning early in October and extending to the last of November, from twenty thousand (20,000) to twenty-five thousand (25,000) head of cattle, nearly all of which is cured and packed with *Onondaga solar evaporated salt.* In some few instances Turk's Island salt has been procured and used, but with little or no perceptible advantage over the other kind. The packing of pork at the same point amounts annually to about 25,000 hogs, all of which is cured and packed with *Onondaga solar salt* and for cure and appearance is second to no other pork packed in the country. These facts are satisfactory to my mind that for curing and packing beef and pork, the solar evaporated Onondaga salt is equal to Turk's Island salt. It is equally soluble and about the same gravity. In the latter respect it is only excelled by the St. Martins, Anguilla and Bonaire, which from their superior coarseness and hardness are preferred for repacking beef intended for long voyages.

Question 16. Have you observed that beef which has been salted two or three years loses more weight in boiling than that which has been salted only one year.

Ans. Have never tried it.

GENERAL REMARKS.

Question 1. In my answer to this question, I have confined myself strictly to the "letter of the law," and have given you the best method of curing and packing beef such as is usually practiced in England and Ireland. Our packers follow this course only with such beef as is cut and packed expressly for the English market. The beef packed for sale in our own market, is packed into barrels directly after it is cut, the shortness of the packing season and the hurry consequent upon doing up a large business in a short time preventing the exercise of the proper degree of care, in fact it is mainly owing to the haste and carelessness incident to it on the part of packers of provisions, in this country that

so much of salted provisions turn out tainted or of inferior quality. The kind of salt used, has in reality much less to do with it than is generally supposed.

Questions 6 and 7. I would add to the causes of the softening of the rind of pork, the degree or extent of the *scalding* process The water will necessarily be of variable temperature, and in many cases the hog may be left too long exposed to its action, and this would be sufficient to account for the change in many instances.

Question, 11. It was owing to the general use of fine salt in the interior and western part of our own State some years ago, and its invariable effect, upon pork and beef, when examined the spring and summer following, being as I have stated, that provisions so salted fell into disfavor, and the *prejudice* against the use of fine salt became general; at that time I think there was but a small quantity of solar salt manufactured. As the production of this latter quality of salt increased, the packing of pork in our State decreased, owing to the railroad facilities, enabling the farmers to find a better market for their hogs in New-York and Boston, so that at the present day there is little packing of pork or beef done west of the Hudson river, (Utica is the only point of any importance.) The packers on the river use exclusively foreign salt and have always used it.

The opinion that generally obtains, that Onondaga salt is not as good as foreign salt, is based upon the quality of that salt as manufactured years ago, and cannot be applied to the more recent manufacture of *solar evaporated salt.*

Through your kind attention the following valuable and instructive letters have also been procured. They are from practical and intelligent men, and the clear and direct statements made, must commend them to the attention and confidence of all.

PACKING PROVISIONS FOR MARKET.

Letter of Thos. F. De Voe, Esq.

New-York, *Dec.* 24, 1852.

B. P. Johnson, Esq., *Sec'y State Ag. Society*:

Dear Sir—I take this *late** opportunity of answering as far as I am able, the inquiries made by yourself and Pro. Geo. H. Cook, on the "curing of provisions," &c. These subjects have commanded a part of my study and attention, as well as experience and observation for about twenty years past, as they pertain to a part of my business, and if what follows will be at all useful or interesting, it is most willingly given.

"The discoloration of (salted) provisions, particulary beef," &c. You are aware, no doubt that the greatest quantity of "barrelled beef" sent to foreign markets, is packed in the heat; great portions are of young cattle, fattened on grass, principally of a quick and large growth, and are what we New-York butchers call "grass fed beef." The beef when fresh will eat soft, tender, juicy and sweet, but will not have the delicious flavor, solidity or firmness, weight, or the heart or nourishment that stall fed (with grain) beef has. It appears to me as soon as the salt touches grass fed beef, it draws back, shrinks into a smaller compass, and changes to a dark *color*, as if there was not firmness or solidity to resist the action of the salt; and when boiled, especially if salted for a long time, will shrink very much, leaving it tasteless, juiceless, without heart or substance, and when cut of a *dark color*. "Stall fed beef," on the contrary, is like corn-fed pork; it has the appearance (when properly cured) of being firmer, brighter, plumper, or has a swelled look, as if the well mixed fat protected the lean flesh. We seldom hear of farmers or others salting grass or milk-fed pork; they pen them up, and feed as much corn (generally) as the animal will take, for sometimes, months before slaughtering, and when they are salted, I quote an old saying, "put one pound of corn-fed pork in the pot, it comes out two," which will apply to the stall-fed beef. Many cure with nothing

*As I was at Washington, when your letter arrived, excuse this late answer.
T. F. D. V.

but salt, (often bad tasted and dirty,) and the sometimes "muddy waters of our western rivers," which gives it a dark yellow and dead appearance.

I have seen a great deal of this kind opened for "Inspection," generally sweet; but the beef had the appearance of having been taken from grass-fed oxen, steers, heifers and cows, of middling fatness, and but a small quantity of stall-fed and properly cured. Some years ago I put up, for the use of a trading ship in the Mediterranean, (and for several voyages) beef from stall-fed steers, 3 to 6 years old, (for I do not call them "oxen" until the animal is fully developed or grown, or until he has passed the age of not less than 6 years,) the plates, navels and brisket pieces; took out all the bones and tied it in rolls of about 10 lbs. each, which I call "Scotch Roll," (and have sold quantities before and since,) curing with salt, sugar, saltpeter and spices. After being gone a long voyage, part came back as bright and handsome as the day it started, and always gave satisfaction.

Many persons ask, why it is that Irish (and also English) beef is preferred before ours? and of their using the name of "Ox Beef" and "Navy Beef?" The reason is, that their cattle are always, more or less, stall-fed on roots and grain, and are properly cured, with the best kinds of salt. Steers are seldom fed to that extent and length of time that the ox is. After the ox has become too old for work, he is stall-fed for (sometimes) months longer, as he fleshes and fattens slower than the steer, on the same quantity of food. Both are, however, strongly fed, as long as there is any improvement, then slaughtered, cut in pieces of 8 or 10 lbs. packed in casks nearly twice the size of our common provision barrels, and branded "Navy Beef," or "Ox Beef," or both. Our city (and eastern cities) cured beef, has always been preferred, and commands a better price than "Western Beef;" but the western packers are improving, as many English and Irish packers, within a few years past, have gone out there to put up for the English and other markets. I prefer steer to ox beef, both stall-fed; because the steer's flesh, muscles, nerves, sinews, &c., are all young and tender, never having been called into the same action that the old ox has, who has worked and labored

until his flesh, muscles,&c. have become hard, tough, stringy and sometimes strong flavored. Give me prime stall-fed steers, four or five years old, strongly fed, not less than 6 months, the four quarters weighing between 800 and 1,000 lbs., good, sweet tight oak casks, Turk's Island salt, saltpeter and sugar, and I will make as good, clean, bright, sweet, good colored beef, and to keep as long as man could ask or wish for.

On "*the Discoloration of Cow or Heifer Beef.*"--There are so many causes for *discoloration*, and the different shades, that is, from a light to almost a black shade, that it is difficult to say, positively, without seeing it, or name the cause, but I will say that, generally, the cause of discoloration, is in the curing, (or handling, as the packers say,) and my reasons, as they occur to me, are; the grown animal, of packing qualities will not cause this dark discoloration, without it has been salted before the animal heat has left it, killed in a hot and worried state, or diseased. These are some of the causes. Some years ago I was often at an inspection and packing establishment, and I might as well give my reasons for being so often there. From information received from England, I was induced to "pack" above $2,000 (as a trial) worth, of large heavy "stall-fed" cattle, say from 900 to 1,200 lbs., (4 qrs.;) cut and put it up, as directed, in tierces, containing 38 pieces, of about 8 lbs. each piece. The report and returns were, that it was just the thing wanted; but when all expenses were paid, I was a loser of about $150, which stopped my packing: but to my reasons. A great many lots, from different packers, were opened for inspection. One in particular was very much discolored, almost black, and quite dirty; the beef about the usual kind "Barreled;" and to trace the cause was some trouble, but I wished to know it. It came from an irregular packer, who had used the steam boiled western salt, (Salina, I think,) a great deal too much, being about one bushel to every barrel; from 10 to 12 oz. saltpeter, and the not settled, dirty river water. You say that "the English packers say that this beef (cow or heifer) will always discolor." I think they must mean the flesh of small steers and heifers, about half grown, poor and thin in flesh; this kind of beef will be a shade darker than that of full grown animals, all salted in the same manner. The

flesh of the ox and cow, or full grown steers, is generally firmer, better beef color (red) than the young steer or heifer, (which is generally a dark veal color,) and of course will be a better color "salted."

The regular packer uses what they call "Solar salt," (ofttimes St. Ubes, or Bonaire, Turk's Island,) from 30 to 50 lbs.; about 6 oz. saltpeter to a barrel; and they have large vats, where the river water settles before it is used. Great quantities are sent to New-York, to be inspected and repacked; it is taken out, say ten barrels at a time, tried if sweet, thrown in different sections of a large circular bin around the scales, according to qualities, inspected and "Barreled" or repacked, using Turks Island, St. Ubes or Bonaire salt. The best quality is marked "Mess Beef," principally in barrels; the next best in tierces, marked "Prime Mess;" 3d best, "Railroad" or "Prime," with the Inspector's name, which generally gives it character and sale.

Respectfully yours.

THOS. F. DE VOE,

Butcher, No. 7–8 Jefferson Market, New-York city.

J. Ambrose Wight, Esq., editor of the Prairie Farmer, is entitled to our thanks for the valuable article annexed, on the packing of beef, and the discoloration of the meat in certain cases, and the probable cause. The English packers, at the Government Victualling Office, at Deptford, near London, insist that the beef of *cows* and *heifers* will *not retain its brightness*, but will grow brown or black. It will be seen (as we supposed it would) that the Chicago packers do not believe, from long experience, that the distinction of sexes affects the beef. The reason why beef is affected is clearly set forth in the annexed article.

B. P. Johnson, Esq., *Cor. Sec., N. Y. S. A. S.*

We have questioned several of our largest and most experienced packers here, among whom we may mention Messrs. Thomas Dyer, O. S. Hough and J. P. Chapin, all of whom have been concerned in provisions for twelve or fifteen years, and are among the largest packers of beef in the world. Their opinions agree in the main, but vary somewhat as to unimportant particulars.

Not one of them has the least faith in any distinction between the sexes of cattle, as affecting their beef. On the contrary, they are all very sure, from positive experience, that no such distinction exists. All cattle will give beef liable to discoloration, under certain circumstances, and certain requisites are necessary in all cases to secure an article which will maintain its cherry color through several years of keeping. The wood of which casks are made is liable to affect the color Oak staves, when green, contain an acid which is certain to act upon whatever the cask contains, and certain kinds of oak timber are more difficult to season than others, so much so as to be unfit for beef packing. Our casks, nevertheless, are made of thoroughly seasoned white oak or ash; and it is not probable that any difficulty arises from this source. The *burning* or charring the interior of the casks, sometimes colors the brine, but it is not thought to affect the meat.

But *the thing* which gives to meat the right or wrong color, is the pickle or brine in which it is kept; and the *principal ingredient* in the brine *which affects the color is the saltpeter*. If the quantity used of this article be *wrong*, the color *will not be right*; so say all our packers; nothing else will compensate for it. It is not meant that no difference will appear from poor beef, or beef which is rapidly falling away at the time of slaughter. Perhaps, also, beef killed when in heat after hard driving or violent exercise, *might* show it in the color, though the opinion is that it would not. But the circumstances here mentioned, are not supposed to occur in our beef-packing, in a sufficient degree to work any material change. The beef slaughtered here for long keeping, or the foreign market, is fatted on the open prairie, sometimes with the addition of a little corn, driven in by easy stages, and slaughtered when cool. But the greatest care is exercised in regard to all that affects the quality of the brine and the pickling of the meat. The best qualities of Rock, Turk's Island, or St. Ubes salt are employed. The precise quantity of saltpeter is added, and the whole is carefully scalded and skimmed three times, the meat being changed each time, before it is packed. Our packers for the English market have no difficulty in regard to the sale when the meat is thus put up.

There are many things which affect the color of meats newly slaughtered. As already stated, if an animal is killed soon after violent exercise, the meat will be dark colored, because the blood is driven to the surface by exertion, and only subsides to the interior by rest and coolness. Such meat will not keep well, because blood putrefies quicker than any other part of the animal. Pickling would very likely take out this extra blood, and then the color and quality of it would be right. But for immediate use, especially in hot weather, all animals ought to be slaughtered after rest. The color of moderately fed beef, especially that fed on grass, will be lighter than that highly fed or fattened on corn. The tallow of the latter, will, on the other hand, be yellow, and the color will be more particularly visible in the tallow; and this will be especially the case, if after high feed, some days of fasting be allowed to follow. The reason, perhaps, is, that stimulating food, such as corn, provokes a generous flow of the bile, which colors the meat more or less, and in the case of the suspension of food, this flow of bile would act still more effectively, since there would be nothing to absorb and carry it off. How far the color of corn itself will affect the meat, we are not prepared to say.

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The following article is copied from the instructions to the master butchers, as given at the office of the Comptroller of the Victualling Office of the British navy. For the copy I am indebted to the kindness of the Comptroller, Thos. Grant, Esq.

Mode of curing oxen and hogs, slaughtered in the establishment at Deptford.

1. They are to be kept upon the premises and fed upon straw or hay for the periods mentioned in the following schedule, according to the time of their arrival at Deptford, in order to give time for them to cool, when they are to be killed and hung up in the slaughter-house twenty-four hours before they are cut up; at the expiration of that time the four quarters of each are to be weighed, and an account taken of the quantity thereof by one of the storekeeper's clerks. The marrow bones are to be taken out as clear of meat as possible, and the legs and shins cut off at the joint, or proper place, for which 16 lbs. in each are to be allowed. The remainder of each cwt. is to be considered as weighing 96

lbs., and is to be divided in the presence of the clerk above mentioned, and master butcher, into 12 pieces, in the most equitable manner possible, by cutting the prime pieces a little under 8 lbs., thereby allowing the other, agreeably to their coarseness and quantity of bone, to be over that weight.

2. After all the beef shall have been messed and taken account of as aforesaid, the whole quantity of kidney suet produced on the occasion, with as much of the head of the caul, as according to circumstances, may be requisite, together with the small pieces and scraps of meat which may be unavoidably produced in the cutting up, and the quantity taken account of in like manner, and the legs, shins, marrow-bones and scraps are to be delivered to the contractors, or otherwise disposed of as soon afterwards as possible.

3. The beef being cut up into mess pieces, as before mentioned, is to be rubbed with white salt, and then stowed into the bins, occasionally throwing some white salt between the layers, where it is to remain the length of time mentioned in the following schedule, care being taken, for the more effectually hastening the cure thereof, that the brine which runs from the meat is thrown over it again, and repeated at least twice a day, covering the top pieces each time with white salt. For rubbing the beef, and sprinkling salt between the layers, and throwing some more daily over the pieces, while in the bins, after it has been washed off by the brine, and making pickle to fill up the casks, 1 lb. of white salt will be allowed for every 8 lb. piece of beef packed. After the beef shall have lain in this state, as above directed, it is to be carefully packed into barrels or tierces, each containing thirty-eight 8 lb pieces, or in such other descriptions of casks as may be directed, with a proportion of 21 lbs. of bay salt and $3\frac{1}{2}$ oz. of saltpeter mixed together, to every fourteen 8 lb. mess pieces of beef, which is to be distributed between the layers, as the meat is packed. The quantity of beef intended for each cask is to be weighed before it is packed, in order to insure that the number of pieces and the weight of the beef are the same in each cask of equal dimensions. The several casks are to be properly marked, for tracing the same, and ascertaining the contents thereof; the

casks are then to be properly coopered and filled with proof pickle, and transferred into the storekeeper's charge.

"4. The hogs slaughtered for the use of the navy are also to hang 24 hours, when they are to be weighed and cut up in the presence of the clerk and master butcher before mentioned, who are to take an account thereof in the manner already described. and every two cwt. of pork is in the same equitable manner as directed with respect to the beef, to be cut into fifty-five four lb. pieces, which is allowing two lbs. in a cwt. for waste. The pork is then to be well rubbed with white salt, and stowed in the bins, and treated in the same manner, and the like quantity of white salt will be allowed for its cure, and for making the pickle to fill up the casks containing the pork, as is directed with respect to the beef. When the meat has remained in the bins the time mentioned in the following schedule, it is to be packed into barrels or tierces, each containing eighty 4 lb. mess pieces, (or such other description of cask as may be directed,) with a proportion of 21 lbs. of bay salt and 3½ oz. of saltpeter mixed together to every twenty-eight 4 lb pieces, which is to be distributed between the layers, as the meat is packed. The casks are then to be properly coopered and filled up with proof pickle.

"5. Every cask of pork is to have the necessary marks, &c., (as 3.)

"6. The tongues which may be produced from the oxen slaughtered in this establishment, are to be carefully cured in the following manner, viz: They are to be properly cleaned and then lodged on the racks in the tongue house to cool, as soon as taken from the oxen, where they are to remain until the morning appointed for cutting up the beef, when the tongues are to be well rubbed with white salt, and placed in a tub where they are to remain four days, at the expiration of this period they are to be taken out and again well rubbed with white salt, and replaced in the tub, without drawing off the brine, where they are to remain four days longer. The proportion of salt used in the operation is to be at the rate of 30 lbs. for every 60 tongues cured, and the

same proportion of salt will be allowed for making pickle for filling up the casks.

"7. The tongues being now considered perfectly cured, they are to be packed into such size casks as may be directed, with salt in the proportion of 9 lbs. of bay salt and 1½ oz. of saltpeter to one dozen of tongues. The casks are then to be headed up and made tight and filled with proof pickle.

"8. The suet which may be produced from the oxen slaughtered at this yard, is to be properly picked and lodged in places appropriated for drying the same, where it is to remain until the morning appointed for cutting up the oxen. It is then to be packed into barrels of 240 lbs. each, (or such other description of casks as may be directed,) causing white salt to be added thereto in the proportion of 2½ oz. to every pound of suet, which is to be distributed between the layers. The suet being packed, the casks are then to be properly coopered and filled up with proof pickle for which expenditure, 2½ ozs. white salt for each pound of suet will be allowed.

"9. The several casks containing tongues and suet are to be properly prepared, &c., (as 3.)

SCHEDULE

Showing the days of the week when the oxen and hogs are to be sent into store from Smithfield market and other places; when they are to be killed; when to be cut up into mess pieces and salted, and when the said pieces are to be packed into casks.

	When to be rec'd into the victualing office at Deptford.	When to be killed.	When to be cut up and salted.	When the mess pieces are to be packed.
Oxen,.....	Friday,.....	Monday following,.	Tuesday following,.	Monday follow'g
Hogs,.....	Saturday,.....	Tuesday " .	Wednesday " .	Monday "
Oxen,.....	Monday,.....	Thursday " .	Friday " .	Thursday "
Hogs,.....	Thursday,.....	Friday " .	Saturday " .	Thursday "

N. B The meat is to be shifted from one bin into another on pack days, whenever the service will admit of it.

Another mode of curing salt Beef and Pork.

"The oxen or hogs are to be slaughtered after having remained two days on the premises, and to be salted the following day af-

ter they are slaughtered, and packed into casks; after remaining in that state not less than 8 nor more than 10 days, the beef or pork is to be weighed and repacked.

"The quantity of common salt for salting and pickling a tierce of beef of forty two pieces of 8 lbs. each, is to be 42 lbs. bay salt, for repacking 84 lbs. The quantity of common salt for salting and pickling pork, the same as that for beef, but the bay salt only 70 lbs. to each tierce.

"Half a pound of saltpeter to be used to each tierce of beef or pork; a quarter of a pound to be used in the first salting; and a quarter of a pound when the meat is repacked.

"The casks to contain 38 pieces of beef of 8 lbs. each, or 40 pieces of pork of 4 lbs. each, exactly of the same dimensions as the Irish India tierces, if not, the quantity of salt above mentioned must be regulated in proportion to the size of the cask."

These instructions are dated Jan. 2d, 1838. Since that time, however, the system is changed, the salted meats are supplied by contract; the stipulations in the contracts being nearly the same as in the above instructions.

The nature of my investigations has been such, that I have been extremly desirous to know if there was any inferiority in the quality of the salt made at Onondaga, in our own State. From what has been stated in the preceding part of this paper on the various circumstances which affect the curing of salted provisions, and on the powerful prejudices which exist in the minds of men, relative to different kinds of salt, as well as from a careful chemical analysis of a great many varieties, I conclude that it is not inferior to any other, and in point of cleanness it is decidedly superior to all others. My conclusions are sustained by the census reports of the butter and cheese made in this State. The State of New-York furnishes about one-fourth of all the cheese made in the United States, and of the 79,000,000 pounds made in 1850, the larger part was salted with Onondaga salt. The character of this cheese in our own and in foreign markets, is of the highest kind.

"In relation to the manufacture of cheese in this State, from an examination of the various dairymen who have presented cheese

for exhibition at our various fairs, I am satisfied that more than two-thirds of them have used the salt manufactured at our own works. The character of our cheese abroad, in England particularly, is such, that our best cheese brings in the Liverpool and London markets nearly equal prices to the very best cheese manufactured in the best dairy districts of England.

B. P. J."

In the preservation of beef and pork I could cite the testimony of numbers of packers, but the following from Mr. Slocum, of Troy, is sufficient. It was written three years ago, (Assembly document No, 184, page 40, of 1850,) but in an interview with him since, he assures me that his further experience has only confirmed him in the opinions then expressed. He then testified "that for the last fourteen years he had been extensively engaged in packing beef and pork in the State of New-York, and for the last five years has packed beef and pork in Ohio and Illinois, say more than ten thousand barrels in each year, two-thirds of all which has been packed in the Onondaga coarse salt. And deponent says that he would as soon use the coarse Onondaga salt for packing beef and pork, as any foreign salt, and that he knows from experience, that the Onondaga solar salt will save beef or pork as well as any foreign salt, (Turk's Island, St. Ubes, or Bonaire,) notwithstanding the fact that he could purchase foreign salt as cheap as he could get the Onondaga salt, at Peoria and Chicago, he has used nearly all of the Onondaga salt at those points; he has packed fifteen thousand barrels of beef and pork at Huron, Ohio, in the last five years, entirely with the Onondaga coarse salt, all of which has kept as well as the same quantity packed in this country with Turk's Island salt; he has packed more than fifty thousand barrels of beef and pork with Onondaga coarse salt as well as any one could have done with foreign salt. My beef has been mostly sold in New-York, some in Boston and some in New Bedford. It has brought as high a price as any beef of the same quality packed with foreign salt. I have not packed any beef for the English market which is usually of better quality than we pack for the home market. My experience is, that the Onondaga coarse salt does save the beef and pork as well as any foreign salt, and does not discolor the meats in the least."

(Signed,) HIRAM SLOCUM."

The following statement relative to the packing of pork, is quite to the point. It was written by one in whose judgment I have entire confidence, and I can confirm his statement of the appearance of the two kinds of pork from my own observation:

WASHINGTON, *January* 30, 1853.

It is known to the public that the Secretary of War, a year ago, ordered experiments to be made in packing pork, to test the relative qualities of Onondaga solar salt with Turk's Island. Each hog was cut in two on the back, and one half packed with Onondaga solar and the other half with Turk's Island salt. The same quantity of each kind of salt being used in each case, and packed in barrels of the same quality. In short, the treatment of each kind throughout was the same, in all particulars. This pork has been packed for more than 13 months, and a few days since I saw some of it opened, and it was impossible to discover any particular difference between the two kinds of salt, or to see any difference in the quality or preservation of the meat.

The pork was put into barrels numbered from 1 to 100. The odd numbers being of one kind of salt and the even numbers the other. They were sent out, one of each kind, to every military station throughout the United States, with instructions to be opened after a given time, and certain tests of the meat to be made by a board of officers, under the direction of the officer in command. Many of these reports have been received at the Commissary's office, and yesterday I took occasion to examine them. The result is, that it is almost impossible to discover any difference. The greatest is in the loss of weight, after being boiled for an hour and a half. As a general thing, there is more loss in weight in that salted with Turk's Island, than with the Onondaga solar salt. In most cases, the meat is represented as being uncommonly good. The result of this experiment thus far, is a full vindication of the quality of the Onondaga solar salt, and shows beyond a question that it is fully equal in all respects to the best Turk's Island brought to this country for packing purposes.

In the salting of butter with the different kinds of salt it is more difficult to get clear ideas. The whole is so entirely a matter of *taste* that one can hardly dispute any thing that may be

said on the subject. I do know however of a large number of cases in which the most skilled have failed to distinguish one from the other, and of many other cases in which the "knowing ones" have shown themselves most entirely mistaken. Excellent butter is made in those parts of this State where Onondaga salt is used, equal I have no doubt to that where foreign is made use of.

To the above may also be added the following from my report to the Superintendent of Onondaga salt springs, last year:

"The various charges made against Onondaga salt, are most varied in character, and many of them exceedingly vague in their statements. Large quantities of provisions are undoubtedly spoiled every year, but there is no testimony to show that more are lost by the use of Onondaga than of other salt. Still, if they are spoiled or injured, and some cause must be assigned, there is none more convenient than bad salt. It is undoubtedly true, that provisions will spoil if an insufficient quantity of salt is used. It is also true that salted meats frequently spoil, though enough salt is used, if they get out of the brine and are not covered with salt, and in hot climates they even spoil when covered with brine, if there is not a plenty of salt over them."

Knowing that the English Cheshire salt was very much like Onondaga salt in purity, and that it was all made by artificial heat, I addressed a letter of inquiry to B. P. Johnson, Esq., Secretary of the New-York State Agricultural Society, at that time in London, as Commissioner from the State of New-York at the World's Fair. The following is his answer:

LONDON, *July 29th*, 1851.

"Prof. COOK:

The following information I obtained from the most extensive packer of provisions in London, and it is entirely reliable. From what I learned from the provision dealers in London, on the subject of the practice in Ireland, I am led to believe it is substantially the same as in London.

Very respectfully yours,

B. P. JOHNSON,

Commissioner State of New-York.

No. 10 Bury street, St. James }
July 14*th*, 1851. }

Robert Hastie, Esq.:

Dear Sir—I am desirous of ascertaining from some of your provision dealers, answers to the following questions; and could you obtain them for me without too much trouble, you would greatly oblige me.

Respectfully yours,

B. P. JOHNSON.

1. Is Cheshire salt used for packing provisions for the army and Navy of Great Britain, and is it used in the fisheries?

A. St. Ubes bay salt for the heading of provisions and Liverpool salt for packing, and a coarse description of the same is used in the fisheries.

2. Are the discolorations of provisions which sometimes occur attributed to the salt or to the wood of the casks?

A. To the salt only.

3. Is it true that the deliquescent chlorides in salt are not injurious to butter or cheese?

4. What are the most approved salts for packing provisions and for household use in the English market?

A. The large salt merchants in London, say that beef or pork for the navy are salted with the coarse, or common salt, and the casks are generally headed up with St. Ubes bay salt, and there is a finer description used for butter, and known as butter salt, and the fine stoved salt is used for household purposes; and all these salts are obtained from salt springs."*

With regard to the discoloration of provisions spoken of above, it has frequently been observed, and many persons attribute it to the salt; Stephen Smith, Esq., of Syracuse, many years since asserted that the color was from the wood of casks. A writer in the report of the Commissioner of patents, for 1843, p. 221,

* The different names are applied to the Cheshire salt on account of the different temperatures at which it is made, and consequent difference in the size of grain.

writing from Liverpool to direct American provision dealers in packing for the British market, also states that such is the case. A provision dealer of great experience, assures me that he has frequently observed the same fact. To test the matter I salted beef with salt in which oak saw dust had been mixed, and then kept it at a temperature of about 70° for a few days; it became of an inky black color on the surface; the color was brightened by boiling. The same effect was observed both with foreign and domestic salt.

From these facts I cannot but conclude, that much of the prejudice which exists against Onondaga salt is unfounded. Good salt is unquestionably desirable, and, if the objections which have been made against the present article should lead to the manufacture of a better, both manufacturers and consumers will be benefited. There appears to be some misapprehension as to the use of the different kinds of salt; many persons supposing that if equally pure, they are equally well adapted to different uses. Such however, is by no means the case; very fine salt is best for culinary purposes, and that which has the largest amount of chlorides of calcium and magnesium is preferred on account of its sharper taste. That which will dissolve quick is always the safest for salting meat in warm weather, because it *strikes* quickest. A portion of coarse and heavy salt at the top of a barrel of provisions is desirable, for it keeps the brine strong at the surface and thus hinders it from souring. These and other facts of a similar kind may serve to explain some of the objections which have been made to different varieties of salt.

The above cited facts it appears to me are sufficient to present the subject of *curing and preserving beef and pork* in its true light. Many facts on the *curing and preserving butter and cheese*, have been collected, but they are not yet as complete as I should like to make them. Should opportunity offer I hope to present them more complete at some future time.

Hoping that these may prove useful to the great interest to which you have devoted yourself,

I remain, very respectfully, Yours,

GEO. H. COOK.

Albany Academy,
Albany Feb. 9th 1853.

Errata in the article on Breeding Animals. [To face page 297.]

Page 298, 6th line from top, read "stocks" for "stock."
21st " " "or" for "and."
299, 1st " " "observations" for "observation."
299, 7th line from bottom, read "a" before "domestic."
301, 14th " " quotation marks omit.
302, 17th line from top, read "value" for "virtue."
303, 12th " " "extent" after "some."
8th line from bottom, read "any" for "every."
304, 7th " " "form" for "forms."
305, 6th line from top, read "varieties" for "variations," end of line.
305, 16th line from top, read "a" after "exhibit."
18th line from bottom, read "selection" for "relation."
306, 8th line from top, read "some" for "more."
9th " " insert "t" at commencement of line.
9th line from bottom, insert ";" after "eagles."
308, 3rd line from top, read "effected" for "affected."

BREEDING ANIMALS.

BY SANFORD HOWARD.

"Although in all cases the system of in-and-in breeding is not desirable in our domestic animals, yet when animals properly formed have been obtained, it is the only method to retain that form."

The above sentence occurs in a paper on the breeding of animals, by Valentine Barford, published in the Journal of the Royal Agricultural Society. It relates to a very important subject, upon which our farmers generally possess but little information. The first question which will arise in the minds of most persons, relates to Mr. Barford's conclusions, as expressed in the above quotation. Are they correct? In the settlement of this question, however, it is necessary to understand in the first place, what is in-and-in breeding. It is a term which, though often used, is variously understood; or rather, perhaps, is not generally understood at all. As applied by most persons, it is evidently intended to signify the coupling of animals of *some sort* of relationship; but the same application of the term is often made to cases differing widely in their degrees of affinity. For instance, if common cows are bred to a Devon bull, and the offspring of that union are bred together, the latter is called in-and-in breeding; if offspring are bred to either of the parents, that is called in-and-in breeding; or if offspring of the same parents (brother and sister,) are bred together, that is called by the same term. It is obvious that such a use of language conveys no distinct idea, and hence a more strict definition of the term is required.

Sir John S. Sebright, in a valuable paper entitled "Art of Improving the Breeds of Domestic Animals," published several years since by the British Board of Agriculture, considered the term in-and-in to signify breeding from animals of *precisely the same blood*. This definition was afterwards adopted by Rev Henry Berry, a well known writer on breeding cattle, as well as by others. It is the only intelligible definition I have ever seen. If it is received, it follows that none of the cases before alluded

to could be deemed examples of in-and-in-breeding, except that of brother and sister, as they are the only ones in which the blood is the same on both sides. With half-bloods, derived from an union of any one animal with animals of alien blood, it is evident there is considerable diversity, owing to the variation of blood in one of the parent stock; as in the case of a cross of the Devon bull, before mentioned, the half-bloods are only the same in blood to the amount of one-half. This difference exists also, but in a less degree, in most cases where offspring are bred to either of the parents. If, for instance, a male and female of different families are united, the offspring inherits half the blood of each parent. The produce of this offspring with either of the parents, would be three-fourths of one of the first pair, and one-fourth of the other. This produce, bred to the same animal again, would give the third generation seven-eighths of one of the original stocks and one eighth of the other. The terms *breeding-in*, and *close breeding*, have been given to this and similar courses. It is obvious, however, that whatever are the consequences of in-and-in breeding, those of breeding-in must approximate to them in proportion to the closeness to which the practice is carried, and in proportion as the blood of the animals becomes similar.

With these remarks in reference to the meaning of the term in-and-in, let us return to our text, the first clause of which declares that that system of breeding "is not desirable." The expression indicates that its author regarded in-and-in breeding as fraught with certain tendencies of an injurious nature, an idea by no means uncommon. But what are the injurious results attributed to in-and-in breeding? Perhaps the common hypothesis in regard to this subject cannot be better expressed than by the following language from the essay of Sebright, before referred to:

"I have tried many experiments by breeding in-and-in, upon dogs, fowls and pigeons; the dogs became from strong spaniels, weak and diminutive lap-dogs; the fowls became long in the legs, small in the body, and bad breeders. Indeed I have no doubt but that by this practice being continued, animals would in the course of time degenerate to such a degree as to be incapable of breeding at all."

The observation of many practical men might be cited to show that these and and similar consequences often follow in-and-in breeding. But are they the positive and necessary results of that course? Does in-and-in breeding, *per se*, tend to degeneracy, or is there a natural law to that effect?

The philosophy of the case appears to be this. Domestic animals are subject to certain diseases or defects, which are transmissible hereditarily. If two animals having an equal tendency to the same defect are united, the liability of the offspring to possess the defect is doubly greater than if the tendency had only existed in one of the parents. This consequence does not follow merely because the animals are related, but because they have similar defects. For example, different families of cattle are hereditarily prone to diseases of the lungs, and also of the liver and other organs. Now if two animals are brought together which are entirely unrelated, but each possessing an equally strong tendency to the same diseases, there is no reason why the same result should not as certainly follow in the offspring, as if the parents had belonged to the same family. But it should be remembered that the constitutional tendencies of animals of the same family are generally similar, and that the same defects in animals of remote affinity are less frequent, so that in the ordinary course of breeding, the danger of propagating defects is greater with animals near akin, than with those more distant.

Such seems to be a reasonable explanation of the consequences which sometimes follow breeding from domestic animals of near affinities. It does not appear that degeneracy is the inevitable result of this course. In a state of nature, it is more than probable that animals of the closest affinities frequently interbreed without any injurious result. In fact we are not without examples of animals having been bred in domestic state, directly in-and-in, for many generations, without the least deterioration. Breeders of pigeons have noticed that the two hatched in the same nest at the same time, are usually male and female, and that they generally pair and breed together. Col. Jaques, of the Ten-Hills Farm, near Boston, imported one pair of Bremen geese from Germany, in 1822. It would be difficult to enumerate the num-

bers bred from this one pair in the space of thirty-one years. The imported couple were bred together till the spring of 1830, when the gander was killed by an accident. Since then the goose has been bred with her offspring, till her loss by an attack of dogs on Col. J.'s poultry-yard in the spring of 1852. Of course the progeny have been bred for the most part directly in-and-in, and yet no perceptible deterioration has occurred. In Col. J.'s hands they have always been very prolific, have not decreased in size, but in some late instances have exceeded the weight of the original pair, and have in fact been in all respects so superior as to attract general attention.

Two similar cases might be cited in reference to wild or Canadian geese. Col. Jaques procured a pair from Canada in 1818, and continued to breed from this stock without change, till all those in his possession were destroyed by the attack of dogs before mentioned. The gander originally brought from Canada, died from some cause not known, in the winter of 1851–2.

The Shakers at New Lebanon, N. Y., have had a stock of the same species twenty-seven years. The originals were a single pair which belonged to the same brood, consequently the whole stock must have been bred strictly in-and-in to the present time. They still breed as well and are as perfect as at first.

The fact seems to be that animals in a state of nature do not suffer from in-and-in breeding, or at least they are less likely to suffer from that course than those far removed from their natural condition. One reason of this probably is, that their organization is more perfect, and that they are generally free from diseases or defects, and consequently their progeny can inherit none. Again, we know that with animals in a domestic state, almost everything depends on the selection of animals suitable to breed from. Sebright has well observed that the circumstances in which wild animals are placed, "produce all the advantages of the most skilful selection. The greatest number of females will of course fall to the share of the most vigorous males; and the strongest individuals of both sexes, by driving away the weakest will enjoy the best food and most favorable situations for themselves and their offspring. A severe winter or a scarcity of food destroys

the weak and the unhealthy. In cold and barren lands, no animals can live to the age of maturity, but those who have strong constitutions; the weak and the unhealthy do not live to propagate their infirmities, as is too often the case with our domestic animals."

It follows from these facts, that animals which are nearest the natural type of the race, would breed with the most certainty of transmitting their peculiar properties, and would be least likely to degenerate, whether bred from near or remote affinities. Hence it results that natural or aboriginal breeds have less tendency to deviate from a uniform character, than varieties differing widely from the original type, or which were derived from a mixture with the blood of various races. Still, crossing is sometimes expedient, and when managed with judgment may be highly useful."

The latter clause of our text declares that "when animals properly formed have been obtained," breeding in-and-in "is the only method to retain that form." This can only be true in a modified sense, as will be shown. The statement pre-supposes the impracticability of procuring animals of proper form, not closely allied by consanguinity. In some instances it is admitted that this may be so, but in many others no such difficulty is seen to exist. In some breeds, the form and properties which are most highly prized, can be obtained in specimens between which we can trace no relationship, as the term is commonly understood. This remark will apply to many kinds of poultry, as turkies, geese, and some kinds of fowls, so called; it will also apply to some breeds of sheep, as the Spanish or Merino, in some degree to the South Down, and probably with more force to the Scotch Mountain breeds. It will more or less apply to cattle, as the Devon, Galloway and West-Highland breeds. We are assured by those who have had the advantage of occular examination, that in the Hungarian, and some of the Spanish breeds of cattle, (the latter said to be exceedingly well formed,) the animals are so near alike that it often requires close attention to tell one from another. It is the same with the most distinct breeds of horses, as the Arabian, the Norman, and some of the English breeds, es-

pecially with the smaller class called ponies. In all species of wild animals there is almost an exact similarity from the buffalo and deer to the different species of birds.

But when it is desired to obtain animals possessing properties not usually found in the breed to which they belong, it may be necessary to breed from close affinities. If, for instance, an extraordinary development of the fattening disposition, or any other property, is exhibited in one animal, and it is not to be found in others of the breed, it will be necessary to propogate from the progeny of this animal if it is desired to obtain this property in the highest degree. An example in point may be cited in the Ancon or Otter breed of sheep, which originated from one animal, and was extended and perpetuated by selecting and breeding from those of the family which possessed the peculiar organization. It may be said this was propagating morbid or unnatural properties. It is not the present object to discuss the virtue of this stock, but to illustrate a principle. We may say that every trait in animals which is at variance with the normal type of the race, is in some degree of a morbid nature. It is so in relation to the extraordinary fattening tendency in some animals, and the great milking habit in others. They do not belong to the animal in its natural condition, and in this light may be considered defects, though in reference to the purposes of man they may be important advantages.

Cases might be cited where an adherence to animals of the same family has been necessary to retain certain properties, and establish a new variety in which these properties should be permanent. The bull "Hubback," has been called "the main root," and the "grand cause of improvement" in the variety of cattle known as improved Short-horns. Without stopping to examine the mooted question as to the blood of Hubback, we may say that he differed so remarkably from the general character of the race, as to be pronounced by those who could appreciate his value, "a *wonderful animal.*" According to all the records in regard to him, it was admitted that in relation to tendency to fatten, quality of flesh, and weight in proportion to offal, he possessed excellencies unequalled by any bull of his day. Charles Colling

formed the design of securing the extraordinary properties possessed by this bull. He accordingly procured such females as most nearly resembled him, and the progeny produced by this union, formed the entire ground-work of his celebrated herd. Having procured in the outset most of the animals which possessed the characters he was desirous of propagating, he was under the necessity of adhering chiefly to his own stock, in which alone these characters were strikingly exhibited. Hence it will be seen, by an examination of the pedigrees of his animals, that he in many instances bred from those of very near relationship. It is true that after he had thus bred for several years, he introduced to some a cross with another breed, with a view to giving certain animals in his herd such points as he deemed necessary to effect his original purposes.

Other examples of this nature might be referred to. It might be shown that Bakewell in breeding the long-horns, and Tomkins and Tully in breeding the Herefords, pursued similar courses to that pursued by Colling. It has been said and probably with truth, that Colling studied in the school of Bakewell. The main point, however, in breeding on this or any other mode, is the selection of such animals for propagation as possess in the highest degree the desired properties, and which are at the same time free from defects. Hence the judgment of the breeder and the facilities he has for selection, will determine his success. He must of course be able to know the proper animals, he must have the means of obtaining them, or he cannot accomplish his object. The opportunity of choosing from a number of animals, is of great importance. If the breeder has not this range for selection, he may be obliged to breed from animals which are deficient in essential points. Hence it is very difficult to keep up a stock of every description, where only a few fine breeding animals are to be had. All specimens of any variety of our domestic animals are not exactly alike, and comparatively few, in many varieties can be said to be perfect enough for breeders; but such are the only ones that should be allowed to propagate. While the variety comprises but few animals, the breeder is met with serious obstacles. In reference to over-coming these obsta-

cles, Sebright makes the following remarks, which are worthy of special attention. "If one male and one female only of a valuable breed could be obtained, the offspring should be separated, and placed in situations as dissimilar as possible; for animals kept together are all subjected to the effects of the same climate, of the same food, and of the same mode of treatment, and consequently to the same diseases, particularly to such as are infectious, which must accelerate the effects of breeding in-and-in. By establishing the breed in various places, we may perhaps be enabled to continue it for sometime, without the intermixture of other blood."

From a view of the whole subject as presented by the foregoing reasoning, the following conclusion may be deduced: That breeding from animals of near relationship may be properly practised so far as to fix and perpetuate some valuable quality not belonging to the race in general; but where no superiority is exhibited in a particular family, or where individuals composing a breed are nearly similar, there is no advantage in resorting to this system.

It has been previously remarked that certain alterations may be produced in the form and habits of animals, by which they are better adapted to the purposes of man. It is of so great importance to the stock breeder to understand the principles on which this improvement depends, that a few further remarks will be made in the attempt to illustrate the subject.

It is a law of nature, applicable to both the animal and vegetable kingdoms, that "like produces like." This however, is only true in a general sense. The idea which it is intended to express, is, that each group, or species of plant or animal possesses certain peculiar characters which are continued by reproduction. Man, for example, has an organization which distinguishes him from every other animal; but all men are not *exactly* alike; there are variations of forms and habits, though the variations are confined to a limited sphere, and are never such as to interfere with the generic boundaries. It is so with other animals, there are certain minor differences within each species, race, or breed. Sometimes these differences are of such a kind as to enhance the value of the animal in which they appear, for a specific purpose. The animal may have a color, shape, tendency to fatten, quality of flesh, or

other property, which is particularly desirable, and is not usually found. It is therefore an object to multiply this property to the greatest practicable degree, and the progeny of the animal, or those which exhibit the desired properties, are carefully reared and allowed to propagate.

Now it is obvious that these variations constitute the variations or breed. The animals which possess in the greatest degree the properties which render them valuable for any specified purpose, are selected and bred together. There is not an exact resemblance among their progeny; some have less of the points which are the special object of the breeder, than their progenitors had, and some may have more of them. The proper course will be to select the best for breeding, to seize on those variations which most favor the grand object, and to pursue this from generation. to generation. Thus by the exercise of due judgment, animals are finally obtained, which without change of blood, exhibit marked contrast with the general character of the breed, at the time the relation was commenced.

The system above laid down, applies strictly to the breeding of animals without crossing—the stock being wholly selected, within a particular breed. As examples of this course, we may refer to the improvement of the South-down sheep, by Ellman, Webb, and others, of the Spanish or Merino by the Germans, of the Hereford cattle by Tomkins, Tully and Price; of the Devons by the Quartlys, and Turner; of the Jerseys or Alderneys by Le Couteur and others.

Breeding by crossing distinct breeds, and rearing a new stock from the progeny, differs of course in the outset from the former. After the cross has been made, however, and the ideal standard established in the mind of the breeder, the selections will be made with reference to this standard. So that with the exception of the diverse origin of the parent stock; the two systems of breeding are similar in principle—the object in both being the production of animals of particular properties, and the selection being wholly directed to those which possess them.

It has been shown that vague notions are entertained in regard to breeding in-and-in. Equal confusion prevails in many instances on the subject of crossing. Some persons, through fear of the injurious consequences of consanguineous breeding, would cross every species and breed which is capable of intermixture, thus breaking down many of the important natural distinctions by which the adaptation of animals to particular situations and purposes is secured. On the other hand, more run into the opposite extreme, deny that any improvement has ever been effected by crossing, and contend that it should never be allowed. Perhaps a better illustration of the maxim that "extremes are good for nothing," could not be given, than is presented in these opposite positions.

Various examples of improvement without crossing have already been referred to; it is easy to prove that crossing has in many instances been the means of improvement. The most successful breeders have not confined themselves exclusively to either mode, and it is evident that each has its advantages under certain circumstances. Sound judgment is certainly required to decide in regard to a cross, and to carry it on to a successful result; but as to the practicability of the object, there need be no controversy, as the thing has been repeatedly demonstrated. It is true that many attempts of this kind have totally failed, and so have attempts at breeding by other modes; but this only shows what we see every day in busine s affairs, that some men fail where others succeed. Proper capacity is required for all operations. The eagle, (as the fable relates) bore away the lamb to her nest; the crow attempted the same thing, but only entangled her feet, and was captured. The Bakewells, the Collings, the Prices, the Webbs, have shown themselves eagles, but how many who fancied they were like them, have found at last that they were but crows.

This subject is too extensive to be discussed in all its ramifications, within the limits to be allowed to this paper. It may be said, however, that where it is desired to combine particular properties in animals, and this combination cannot be found in any one breed, crossing may be resorted to with specimens of such breeds as, by their union, would be most likely to give the form

and properties sought after. The precise proportions of the blood of two or more breeds, proper to be retained in the new stock, must be left to the judgment of the breeder. The cross-bred stock will doubtless present at first considerable tendency to sport, that is, all the specimens will not present an uniform character; but this is no evidence that uniformity may not be finally attained. The same tendency is developed in the hybridization of plants. Yet to this principle of cross-breeding we owe some of the most important improvements in fruits and vegetables. Knight, and others, have thus produced valuable and permanent kinds of apples, pears, cherries, currants, peas, beans, turnips, and various kinds of grain. No greater obstacle is seen in the way of producing new breeds of animals by the same system, and we have abundant facts to show that this has been in various instances effected with the highest advantages.

Many persons who are violently opposed to all crossing, and are loud in their advocacy of the opposite mode of breeding, do not seem aware of the fact that many of the so-called "pure breeds," were derived from various crosses. Take, for instance, the Berkshire swine; no one who knows anything of the origin of that variety as it at present exists, will deny that it is a mixture of several breeds. Youatt informs us that it is a cross of the old Berkshire with the Chinese, Siamese, and Neapolitan. In fact it is not pretended by authors, that among the present valuable breeds of Britain, there is one that can be considered original and unmixed. It is not intended to assert here, that all crosses of swine have been beneficial, there have been many improper crosses, but who will dare deny that great improvements have been produced from this course?

We come now to sheep. Here we have a most striking case in point in the origin of the present Leicester or Bakewell breed. Few breeds are more distinct in their characters than this, or transmit their peculiarities with more marked effect, when crossed with other breeds. Indeed, it is well known that the Leicester has been much resorted to for the improvement of others, and has in part formed the source from which several other breeds have been formed, of which we may mention the improved Cotswold, or New Oxfordshire, and the improved

Cheviot. The Leicester breed of sheep may in truth be said to have attained a world-wide celebrity, and if its originator had affected no other improvement, this would have secured to his name perpetual honors.

But how did Bakewell produce these sheep? It is unfortunate that we have no record of his proceedings from his own hand; but there are some authorities who throw light on the subject. Pitt, in his "survey of Leicestershire" has embodied much valuable imformation on this point, he says:

"Mr. Ferryman, who has conversed with many of Mr. Bakewell's cotemporaries, states that he had formed in his own mind an ideal perfection, which he endeavored to realize; and that with this view, he with unwearied perseverance, and at something more than a market price, selected from the flocks around him such ewes as possessed those points which were most likely to produce the animal he wished for." (page 249.)

The same authority states that some of the sheep he alludes to, were the descendants of some which, several years before, had been brought from a section of Yorkshire and crossed with the common sheep of Leicestershire. Jobbers were also in the habit of going to the Wolds to purchase sheep, and Mr. Bakewell, it is said, "engaged these jobbers not to offer their sheep till he had seen, and taken out such as he thought would serve his own purpose. From these droves, or from flocks so bred in his neighborhood, and probably from a cross with the large long wooled Lincolnshire, he bred his first short-legged, square formed sheep.

"Animated by his early success, he still went on breeding from his own, or *crossing with any others that he judged most likely to bring his own nearest to his idea of perfection*; by which means, and (in the opinion of one of the oldest breeders in the county,) by a cross with the Durham sheep, by slow degrees he produced a form against which he believed no possible objection could be raised." (Page 250.)

Dickson in his late work* says: "Mr. Bakewell was ever on the alert in picking up any sheep which he considered would improve his own stock. It is said that when visiting an eminent breeder

* Breeding of live stock, by James Dickson, Edinburgh, 1851.

in Lincolnshire, he cast his quick eye on a flock of sheep belonging to his friend, which possessed fine points and good symmetry, and whose mellow touch and handling pleased him. He must have been a splendid animal to have satisfied such a man; and he prevailed on this breeder to sell the animal, as he stood rather low on the legs. His friend was induced to part with him, as breeders in Lincolnshire prefer sheep which stand high on their legs, while Leicestershire breeders prefer those with rather short legs, provided the carcase be long and well formed. Mr. Bakewell considered the tup a prize; and it is said this animal corrected many of the wrong points and defects of the Leicestershire, particularly in the wool and the covering of the heads, which they so wanted. The wool of the sheep was of a closer texture than usual, and his head and ears well covered."

Robert Smith, an eminent sheep breeder, in an Essay on the "Breeding and Management of Sheep" for which he received a prize from the Royal Agricultural Society in 1847, observes; "The crossing of pure breeds has been a subject of great interest amongst every class of breeders. While all agree that the first cross may be attended with good results, there is a diversity of opinion upon the future movements, or putting the crosses together. Having tried experiments, (and I am now pursuing them for confirmation,) in every way possible, I do not hesitate to express my opinion, that by proper and judicious crossing through several generations, a most valuable breed of sheep may be raised and established; in support of which I may mention the career of the celebrated Bakewell, *who raised a new variety from other long-wooled breeds*, which have subsequently improved all other long-wooled breeds."

Let us next look at the origin of some breeds of horses. And first of the Arabian, whose history has been written with great care by the distinguished naturalist, Col. Chas. Hamilton Smith. He states as the result of his extensive investigations, that it is "*a race of great intermixture.*" But it has been cultivated for ages, till in Col. S's language, "it is the most artificial, the first of high-bred horses, and the parent of the noblest breeds in the world."

The English race-horse, according to the best authorities, as Low, Youatt, and Smith, was derived from a mixture of the blood

of the Turkish, Barbary, Arabian, Persian, and Spanish horses, with more or less of the ancient British stock. The Suffolk, the Clydesdale, and even the most esteemed variety of the Norman, are admitted to have had a mixed origin, though by skilful breeding they have attained great uniformity.

Numerous examples might be given of the like origin of breeds of dogs, fowls, &c.,

It is evident that Bakewell combined the system of crossing with that of breeding from one stock; for his animals, as before mentioned, were in the first place selected from different breeds, but after the cross had been carried to the desired point, and his standard had been attained, he confined his selections of breeding animals to his own stock. This was the course he pursued with horses, sheep, and swine. It was also the course pursued by Colling with cattle. And yet, in full view of the success of all these examples, when it has been suggested to breed together some animals of extraordinary value that have been produced in this country, we are gravely told that such a course "would be only insuring uniformity of defects, and making them, in the end utterly worthless."

Prof. Simonds, in a lecture delivered before the Royal Agricultural Society, 1848, observes: "crossing is founded on a principle just as secure as Bakewell's system of care in selection, added to the in-and-in system. Every improvement of breed requires the same means to retain it which produced it; the chief of these *is care in the selection of stock*, so as to avoid, the tendency to hereditary diseases or defects."

It has been plainly shown that there have been circumstances under which crossing was expedient, and that it has been practiced with great advantage. It necessarily follows that in similar circumstances it may always be useful, if directed by the requisite skill. But except in cases where there is a reasonable prospect that the new stock would possess valuable properties not to be found in established breeds, it is not advisable to resort to a cross. Specific rules in regard to it cannot be laid down, the judgment of the breeder must govern him as to the proper course in each particular case that arises.

GRASSES.

The committee to whom was referred a paper presented by Mr. Delafield, on the subject of introducing other varieties of Grasses than those in general cultivation in our country, with a view to the improvement of our pastures and hay meadows, respectfully report :

That although we have in cultivation some extremely valuable kinds of grass, yet they are so few in number, in comparison with the superior grasses of Great Britain, that we must acknowledge this important subject has never received from American Agriculturists the attention to which its great importance entitles it. We ought to avail ourselves of the experience of the British farmer, and make, in our turn, careful experiments with his most approved grasses, to ascertain their adaptedness to our climate and soils.

Early in the present century the Duke of Bedford instituted, at his estate of Woburn Abbey, under the immediate direction of his gardner, Mr. George Sinclair, a series of careful experiments, on the various grasses of England, with a view to test their peculiarities of habit, their productiveness ; and lastly, their nutritious properties. T he last point was entrusted to the care of Sir Humphrey Davy, whose table of the comparative value of the different grasses for food was obtained by the most careful chemical analysis, and must always be of great value to Agriculturists. We are fortunate in having access to the history of these experiments, and to the experience of British farmers, for forty years, as tending to verify the results.

It is asserted that upwards of two hundred varieties of grasses are grown in Great Britain, most of them indigenous. Some idea of the great variety to be found in their natural pastures may be formed from this fact, that in a single sod, taken from a rich pasture field, were found upwards of thirty varieties of grass. Mr. Sinclair expresses the opinion that in the rich pastures there are *usually* twenty-six or more varieties.

If we expect to rival these celebrated pastures, ought we not to imitate nature, in scattering a variety of seeds, instead of confining ourselves, as we have heretofore done, to one or two sorts. By careful selection we may have early and late herbage, each grass in its season sending up its leaves and flowers. The sod would be firmer, and the roots of tender grasses more protected from the effect of frosts.

But whilst your committee commend the practice of sowing a variety of seeds, they are not prepared to say which are the best grasses for cultivation in our State. This point should be made matter for careful experiment and comparison; and we may, by such means, learn what mixture of grasses will probably make the most pasture, and what mixture the most hay or forage.

The following described grasses are, by common consent, admitted to be the most valuable now cultivated in England. There are others of great value which might perhaps, be profitably cultivated in our climate; but for the experiments now proposed, your committee recommend only the varieties here named.

Meadow Fox Tail, (*Alopecuris pratensis.*)

This is a very early grass, productive and exceedingly nutritious. It is *the principal grass* in all rich pastures, is a favorite with sheep and cattle, and is one of the most permanent of the cultivated grasses.

The objections to it are these; that it is slow to establish itself and acquire its full growth; and in England, does not produce its seeds perfectly—not more than one-third of the seed sown usually germinates. In our climate there might be no difficulty of this sort.

Meadow Fescue, (*Festuca pratensis,*) Fibrous root.

This is one of the most valuable grasses; it is nearly as early as the Fox tail, and equally as nutritious, though not so productive. It is found in all the richest natural pastures, is much liked by cattle and horses, and is among the most permanent of grasses. It thrives best in the clay districts of England. It ripens its seeds well, but like Meadow Fox tail, is slow at arriving at maturity.

Rough Stalked Meadow Grass, (*Poa-trivialis.*)

This is a superior pasture grass; it has fibrous roots, it loves a moist, rich soil, in such situations is productive and very permanent; but on dry and exposed, its product is inconsiderable, and it soon dies out. It is not remarkable for its nutritive properties. There is no grass of which cattle seem so fond.

Fertile Meadow Grass, (*Poa fertilis.*)

Is a native of Germany, roots slightly creeping; is productive; one of the earliest grasses, and is remarkable for the large crop of after-math, sending up a succession of flowering culms, till the frost arrests it; it grows well on any good land, but thrives best in moist ground; is among the most nutritious grasses, and it ripens its seeds well.

Sweet Scented Vernal Grass, (*Anthoxanthum odoratum.*)

This is one of the earliest, as well as one of the latest herbage grasses. Its value is chiefly for its early growth, its hardiness and continued fresh herbage through the summer. It has been extensively cultivated in eastern Pennsylvania, and has been thought to impart the peculiar richness of flavor to Philadelphia butter, which many admit it to possess.

Perennial Rye Grass, (*Lolium perenne.*)

The root is fibrous. It is the most generally cultivated of the herbage grasses in England; it is adapted to a wide range of temperature and soils; reaches maturity soon, and ripens an abundance of seeds. It is an early and productive grass, but is not particularly nutritious. It is thought to exhaust the land more than other grasses do, and the after-math is very small; yet it is the favorite grass in Great Britain. Care should be taken not to sow the *Annual* Rye Grass, the seeds of the two sorts being much alike. Of the many varieties of Perennial Rye Grass, Pacey's seem to be the most approved.

Rough Cock's Foot or Orchard Grass, (*Dactylus glomerata.*)

Said to be a native of Virginia. This grass has been cultivated with us, to some extent, but does not rival the Timothy Grass in favor; yet in England it ranks very high. It is *always* sown there in mixture with other grasses; and, by experiment, is the most productive of all the varieties of grass, yielding a greater weight of forage per acre than any other, though less nutritious than other favorite sorts.

Meadow Cat's Tail or Timothy, (*Phleum pratensis.*)

The valuable qualities of this grass are so well known to all, that a description of it here is deemed unnecessary. The cultivation of it in England is recommended in mixture with other grasses, but not, as with us, *alone*, it is there considered very valuable, but is not admitted to be superior, if equal, to some of the sorts already enumerated.

Fiorin or Bent Grass: American names are Herds Grass, Foul Meadow, Red Top: Botanical names, (*Agrostis vulgaris*) and (*Agrostis stolonifera latifolia.*)

The value of this grass is well known throughout this State. From an inquiry into English grasses, it would appear that several varieties are there recognized, the best of which is fiorin, or Large Leaved creeping bent; this is more productive, though not so well adapted to upland, as the common Bent or Herds Grass.

Smooth Stalked Meadow Grass, (*Poa pratensis:*) American names, Spear Grass, June Grass, Blue Grass.

This grass is indigenous, and is the ordinary growth of our roadsides; it is very early, and continues its growth throughout the season, until very late in the autumn; it resists drouth, makes a close sod, and is a great favorite with cattle and sheep. As a hay grass, it is not so valuable as many others; is very permanent.

Your committee recommend that a system of trial and comparison of the grasses here enumerated be made by farmers, in

various parts of our State, whose interest in the cause will induce them to undertake, and carefully to carry out the experiment by sowing not less than one-eighth of an acre of each sort named: and that, to this end, the Corresponding Secretary be directed to procure, by importation or purchase, an ample supply of seeds, and furnish them, in his discretion, to such persons as shall agree to prosecute the experiments, in conformity with directions to be given by the Secretary, and to report the results to the Society, in such form as may be prescribed.

WM. KELLEY,
J. DELAFIELD,
B. P. JOHNSON.

OSIER OR BASKET-WILLOW.

Its Cultivation, Uses, &c.

BY C. N. BEMENT.

Almost all the willows are found naturally either in a cold soil or moist climate, are chiefly natives of the colder parts of temperate regions of the Northern Hemisphere, and are generally found in a cold moist soil, or near water. A few species are natives of the Arctic Circle; and Royle mentions several species as indigenous both to the low lands and mountainous regions of Northern India. The low growing kinds are sometimes found in dry arid soils; but in such soils they are never in a thriving state. It has been observed that willows grown on a dry soil, the young shoots are smaller, harder, tougher, and more compact and durable than when grown in rich moist soils. In dry soils also, the growth of the plant is much slower than in moist ones.

The species indigenous in North America, as described by Pursh in 1814, amounted to 37, as either wild or in a state of cultivation. Since then Dr. Barratt, of Connecticut, has undertaken to describe all the willows grown in this country, whether indigenous or exotic, numbering 100. Among all the species described by botanists, amounting to 182, only about six species are considered worthy of cultivation for basket-making in the present day

Osier is the name given to various species of willow, chiefly employed in basket-making. The narrow-leaved willows generally come under the denomination of osiers. It is cultivated for white basket work, producing shoots from six to nine feet long, pliant and tough, even when stripped of the bark, and very durable.

Osiers differ from other willows in their long, straight, flexible and tough sprouts. They are divided into two classes; the first is known by their blunt and downy or mealy leaves, which in others are pointed, smooth and green leaves, resembling the myrtle. The common osier is one of the most abundant species. The sprouts are straight, erect, round, very long and slender, polished, and downy, when young, with fine silky hairs; leaves on short foot-stalks, almost upright, about a span long, and half an inch wide. Many species of willows are found bordering our rivers, creeks and swamps, the greater part of which are brashy, tender and brittle, and are susceptible of no useful purposes.

Osier willows are worthy a place on every farm, because they take up but little room, and flourish best on ground of little value for general cultivation; require very little care after the second or third year, and furnish the best materials for baskets, which are indispensable on every farm. It is a matter of astonishment, when such quantities of articles of this description are annually imported, that Americans, proverbial for their industry, zeal and independent spirit, should have thus long neglected to form plantations fully adequate for all the wants of our country.

From the best information we can obtain, there are from four to five millions of dollars worth of willows annually imported into this country from France and Germany; the price ranging from $100 to $130 per ton weight. In view of this importation and the large sums expended for willow, would it not be well for some of our farmers to give a little attention to this subject? There are thousands of acres of land in this country, which, in their present state are entirely useless, yielding little or nothing to the owners, which might be planted with willows, and would yield an immense profit. From my own limited experience, I am fully convinced that willows may be grown profitably in this country for less than fifty dollars per ton weight.

There are few soils that will not bear willows; yet some situations are unfit for them. Dry and exposed grounds, peat-moss, and land covered with stagnant water or quag-mire are not at all suitable. Completely draining the site of a willow plantation is the first step towards its formation and the foundation of its prosperity, and consequently of the profits to be derived from it. The ground may be formed into beds of a less or greater size, according to circumstances, by open drains of a sufficient width and depth to keep the soil dry. The open drains will require to be cleaned out, and the cleanings may be scattered over the general surface of the beds. In preparing the ground for a willow plantation, if the soil be poor, it should be as well dressed with manure, as if it were intended for a crop of corn. The manure most proper for willows is stable-dung. In no case should a plantation of willows be attempted but in prepared ground, except where a few rows may be introduced upon the very brink of a river, or the top of the banks of ditches. In short, the soil for basket-willows should be deep, well drained, and thoroughly prepared, and the situation ought to be low, level, and naturally moist; and if there is a command of water for irrigation, so much the better.

Nothing can be further from being good management than suffering grass or weeds to grow among the plants. Having fixed upon the spot, and having carefully prepared the ground, the next step is to procure the plants. The variety of all others, most esteemed and best calculated for basket-making, is the *salix viminalis*. An acre of this properly planted upon suitable soil will yield, at the least calculation, from one and a half to two tons per acre per year. It is of quick and vigorous growth, and the sprouts grow amazingly long and strong in one season from the stools, which characteristic renders it very useful for baskets, &c.; the leaves are long and narrow, of a bluish green on the upper, and hoary on the under surface. The cuttings should be of one year's growth, or of sprouts of one year old, of good size, and cut in lengths of from ten to twelve inches, cut in a slanting direction with a sharp knife. It will take from twelve to fourteen thousand cuttings to plant an acre. Every vigorous shoot will afford from three to four cuttings. The upper or small

end of the sprouts being unripe, should be discarded, because such wood will only produce weak plants, and will not make such good roots the first season. The distances at which the willows ought to be planted, should be at least two feet distant, (probably three feet would be better,) and one foot apart in the rows. The former distance will not be too thick for at least five or six years; but after that period, every alternate plant may be removed, which will leave the remaining stools two feet apart each way. They should be carefully hoed and cleaned every year. Nothing conduces more to the raising a good crop of sprouts after due preparation of the soil, than keeping it clean; besides, no good farmer would care to raise a crop of weeds, which would exhaust the soil, at the expense of the willows. The stools should be carefully attended to annually, in order to keep them clear of rotten stumps, and not to allow them to be over-crowded at the bottom of the shoots. When these become too numerous, they should be carefully thinned out, and also cut down, leaving only one eye or two at the bottom of each, until they be diminished to such a number as the stool is capable of supporting with vigor through the season. A basket-maker finds more service from one shoot of six or eight feet in length, than from four of three feet in length; and one of the first dimensions will not exhaust the stool or the land so much as four of the others. The proper season for cleaning and thinning the stocks is from the middle of March to the first of May, or they may be cut in autumn, immediately after the fall of the leaf. Immediately after cutting the sprouts, they are tied up in bundles, and if they are not intended to be used with the bark on, they are set on their butt ends in standing water, to the depth of three or four inches. Here they can remain during winter and spring, till the shoots begin to sprout, which generally happens in March, when they are ready to be peeled.

The process of stripping or peeling is very simple, and may be performed by infirm old men, or by a boy ten years old. All children are fond of this work, and often make quite a frolic where there are several employed on as many benches, each striving who can peel the greatest number in a given time.

The machine for stripping is also quite simple, and consists of a piece of tough, sound wood, about two inches wide and one inch thick. In the top of two sides of a triangle is cut out, like the letter V, opening about one inch at top, and coming close together at the bottom. This machine may be firmly fixed in the end of a strong wooden bench, something similar to that used by coopers for shaving hoops. Another machine may be made of iron rods half an inch in diameter, welded together, and forming a crotch at top like the wood. The crotch need not be over one and a half or two inches long. This instrument may be inserted into the top of a stake or post set firmly in the ground. When the instrument is secured and ready to be worked, a bundle of the willows, washed from the mud, the peeler sits down opposite to it, takes the willow rod or sprout in his right hand by the small end, and puts a foot or more of the thick end into the machine, and draws the willows towards him, by which operation the bark will at once be stripped from the wood. In most cases, once drawing the sprout through, the bark will all strip off; if not the sprout should be turned and drawn through where the bark adhered, and the peeling is completed.

After stripping, the willows should be spread in a clean dry place, until the moisture has evaporated, to prevent mold or mildew, and then put up in bundles, of from fifty to eighty pounds each, carefully bound at several places with some of the sprouts, to prevent breakage or damage in moving them. After being peeled the rods will keep in good condition for a long time, till a proper market is found for them. Sometimes it is necessary to boil or steam them before stripping, which bleaches them at the same time. They will now be fit for market, and should command from three to four cents per pound by the quantity.

The following comprise nearly all the species of willow most esteemed for basket-making, &c.:

Salix Viminalis, or European Green Osier.—This variety of all others, is best calculated for basket-making. An acre of this properly planted upon suitable soil will yield at least two tons weight per year. This kind of willow grown in this country, and sent to market free from bruises, breaks and mildew, will at

all times command the highest price. It is a tree of low growth, but the shoots grow amazingly long, slender and strong in one year from the stools, which renders it so very useful for basket-making. It is a native of England in wet meadows. According to Pursh, it grows in the United States, introduced from Europe, on the banks of rivers, &c.; branches straight, erect, wand-like, very long and slender, round and polished; when young, downy with fine silky hairs. This species is readily distinguished from others of the same class, from its long and narrow leaves, of a bluish green on the upper, and by the white satiny under surface. There is nothing peculiar in the cultivation of this species of willow, but it is a vigorous grower, and will make shoots from eight to ten feet in one season.

There is a variety called the velvet osier, in which no external difference is discernable, but the sprouts are said to be more pliant, and they will make shoots from ten to twelve feet, and is held in high estimation for baskets.

Salix Forbyana, or English Basket-Willow.—A native also of England. The stem is erect, very long, slender, smooth sprouts, very flexible and tough, of a greyish yellow hue, a valuable species for the finer basket-work. When cut down, plants make shoots from five to seven feet long in one season.

Salix Rubra, Red or Green-leaved Willow.—A native of Britain. The branches are long, upright, smooth, greyish or purplish, more frequently tawny, and very tough and pliant. The leaves are very long and narrow, and agree in shape with those of the S. Viminalis; but has not, as that has, dense white pubuscence beneath. When the plants of this species are cut down, they send out shoots from five to eight feet in length; consequently it is valuable for baskets, &c.

Salix Triandra, or Three Stamened Willow.—This is also a native of Britain, in wet grounds, where it forms an upright tree, rising naturally, when not injured, to the height of 30 feet. This is a valuable willow, and is extensively cultivated for the long tough rods which it produces when cut down, and used for white basket-work, producing sprouts from eight to nine feet long

tough and pliant, even when stripped of their bark, and very durable should be cut every year.

Salix Dicolor, or Two Colored Willow.—A native of the United States, and common in low grounds and on the banks of rivers, from New England to Carolina. According to Pursh, this kind is the one most commonly used in America by the basket-makers.

Salix Cordata, or Heart-leaved Willow.—A native of North America. The sprouts are very tough, and are much used for baskets.

Salix Alba, or European White Osier.—This in England is called the Huntingdon Willow, and also the White Willow. It is of quick growth, and attains to a very large size, often reaching to the height of forty to fifty feet. It is said to flourish on almost any soil, and forms by its upright growth a fine contrast to the Weeping Willow. It is also a good basket willow, and is used in England extensively for hoop-poles and fencing by the farmers. Their manner of planting when for fencing, is by placing the ends or cuttings in the ground, and then working them into a kind of lattice-work, and passing a withe around the tops or ends, so as to keep in shape for the first year or two. They then cut the tops off yearly, and sell them to the basket makers; thus having a fence and a crop from the same ground.

The importance of the willow to man has been recognised from the earliest ages, and ropes and baskets made from willow sprouts were probably among the very first of human manufactures in countries where those trees abound. The Romans used the twigs for binding their vines and tying their reeds in bundles, and made all sorts of baskets of them. A crop of willows was considered so valuable in the time of Cato, that he ranked the willow-field, next in value, to the vineyard and the garden. In modern times, the many uses, observes Hooker, "rendered to man, by the different species of willow and osier, serve to rank them among the first in our list of commercial plants."

In an economical point of view, scarcely anything was added to our knowledge of the cultivation and uses of the willow since

the time of the Romans till the slight notices of the uses of the willows given by Ray and afterwards by Evelin. The first systematic essay on the subject appears to have been written by Dr. Walker, about the latter end of the last century, though not published till 1812. In this essay, twenty-two species are described, and an account given of their uses and mode of cultivation.

Willows for basket-making and hoops were principally imported into England from Holland and France until the year 1808, when in consequence of the war with France, plantations were formed in England, and many associations offered liberal premiums on the best production of willow.

The late Duke of Bedford, one of the best farmers of that day, gave much attention to the subject, which is vigorously prosecuted by his son, the present Duke.

The osier for basket-making in this country has been extensively imported from France and Germany, chiefly from France, and sells in New-York from five to seven cents per pound. It is getting to be extensively used in the manufacture of baskets, children's cradles, and wagon-bodies, and as it grows finely in this country, there is no reason why it should not be cultivated sufficiently to supply the home demand.

The uses of the willow are various. Almost all the species being aquatics and of rapid growth, they are peculiarly fitted for planting on the banks of rivers and streams for restraining their encroachments, and retaining the soil in its place. It has one great advantage, as it grows readily by cuttings, and does not require the soil to be disturbed by the operation of planting.

"As far back as I can remember," says Wm. R. Prince, in the American Journal of Agriculture, "my father, the late William Prince, warmly urged the extensive culture of this useful tree, or rather group of trees; and in the *Short Treatise on Horticulture*, written by myself, under his supervision in 1828, the best species of the osier were described, and the facility of their culture commented upon, and public attention particularly called to the importance of growing an ample supply on our own soil."

The art of fabricating baskets from willows, in the commonest form of the manufacture, for farm purposes, is a very simple operation, and is easily acquired by any ordinary hand, and may be practiced in evenings and stormy days in winter, with little or no expense. In Europe it was formerly understood by every country laborer, and it generally formed a part of his occupation in the winter evenings. A well made basket of this willow is actually worth three or four made of ash splints. To give them firmness and durability, a good rim, ribs and handle of oak, hickory, or any other substantial wood are necessary.

ANALYSIS OF THE VEGETABLE OYSTER,

(*Tragopogon porrifolius*,)

By J. H. Salisbury, M. D.

This plant does not belong to the list of those used as food for stock; yet it is a plant of some interest in the way of the table, on account of its richness and peculiar flavor, which resembles when cooked somewhat that of an oyster.

The specimens examined were very large and tender. They were furnished by Mr. V. P. Douw, of Greenbush. Average widest diameter of the roots of 6 specimens, $1\frac{1}{2}$ inches; their average length 11 inches; average length of tops 26 inches; average weight of each root $4\frac{1}{4}$ ounces. Average weight of the tops of each plant, $1\frac{1}{2}$ ounces.

One hundred parts:	Fresh root.	Fresh top.
Percentage of water,.....	81.22	84.46
" dry matter.....	18.78	15.54
" ash,.....	1.465	2.17
" ash in dry matter,..	8.333	13.964

6,826 pounds of the fresh roots, contain 100 pounds of inorganic matter; 4,608 pounds of the fresh tops contain 100 pounds of inorganic matter; 100 pounds of the inorganic matter of the

	Roots.	Tops.
Contain Carbonic acid.....	24.60	21.90
" Silicic acid, ...	0.60	8.65

Contain	Phosphoric acid, ...	15.60	5.05
"	Phosphate of iron,..	1.85	3.85
"	Lime,.....	4.95	7.05
"	Magnesia,.....	0.75	1.20
"	Potash,.....	5.80	6.30
"	Soda,.....	39.20	40.05
"	Chlorine, ...	2.45	0.55
"	Sulphuric acid,.....	3.90	5.15
Organic matter, ...		trace,	none,
		99.70	99.75

One hundred pounds of fresh roots, remove from the soil a little less than 25 ounces of inorganic matter. One hundred pounds of fresh tops, remove about 35 ounces of inorganic matter, these amounts contain, in round numbers as follows:—

	25 ounces.	35 ounces.
Carbonic acid,.....	6.15	7.30
Silicic acid,.....	0.15	2.88
Phosphoric acid,.....	3.90	1.68
Phosphate of iron,.....	0.46	1.28
Lime,.....	1.24	2.35
Magnesia,.....	0.19	0.40
Potash,.....	1.45	2.10
Soda,.....	9 80	13.35
Chlorine,.....	0.61	0.18
Sulphuric acid,.....	0.98	1.72

It may be regarded by some as quite unnecessary to enter into a series of calculations which show the amount and kind of each ingredient removed from the soil, by a given weight of the fresh roots and tops separately, of the vegetable oyster. Those however, who live in the vicinity of large towns, and who raise this plant in quantities for market, we think will find them valuable in the way of pointing out the kind and quantity of each ingredient, removed by a crop, and hence the kind and quantity of each necessary to add. The aggregate quantity raised, is to be sure, but small, nevertheless it is highly desirable, and equally important to have what are grown of the best quality. This is only to be effected, to any degree of certainty, by knowing what kind of a

soil is best adapted to them, and this is established by determining accurately the composition of the plant. Hence the practical value of these calculations.

One ton of fresh roots contains of inorganic matter, 31.16 pounds, which is made up of the following bodies in the proportions given below:

Carbonic acid,	7.69 lbs.
Silicic acid,	0.19
Phosphoric acid,	4.88
Phosphate of iron,	0.57
Lime,	1.55
Magnesia,	0.24
Potash,	1.81
Soda,	12.25
Chlorine,	0.76
Sulphuric acid,	1.22

These bodies are more than furnished to the soil by the following compost:

33 pounds of ashes,
10 pounds of common salt,
5 pounds of plaster.

The ashes furnish all the inorganic matter removed, in sufficient quantity except the soda, chlorine and sulphuric acid. The salt and plaster, furnish these.

We now come to see the proximate organic composition of the roots, which points out to us their nutritious qualities.

	100 parts of fresh roots.	100 parts of dry roots.
Water	80.610	
Fiber,	2.764	29.618
Sugar and extract,	3.665	39.279
Dextrine,	1.435	15.378
Casein,	0.172	1.849
Albumen,	1.066	11.426
Starch,	0.035	0.375
Resin,	0.180	1.929
Gluten	0.014	0.147
	99.941	100.000

The roots contain a large percentage of sugar, dextrine, and albumen, which accounts for their richness. They contain about five per cent of water more than the potatoe. Besides the above bodies, they contain a small quantity of a principle which gives them their peculiar flavor and odor when cooked.

Ultimate Organic Analysis of roots.

100 parts of dry root gave of

Nitrogen,	1.980
Carbon,	42.809
Oxygen,	41.014
Hydrogen,	5.644
Inorganic matter,	8.333

ANALYSIS OF THE CARROT, (*Daucus Carota.*)

By J. H. SALISBURY, M. D.

The roots of this plant in the wild state are small, woody and rank; when cultivated, they become large, fleshy, sweet and crisp. The plants analyzed were large, fleshy and crisp. They were furnished by Dudley Walsh, Esq., Albany. The average length of the roots 15 inches; average widest diameter 2½ inches; average length of tops 28 inches. Average weight of each root 18½ ounces. Variety, large yellow, mature.

Percentage of water, dry matter and ash.

	Fresh root.	Fresh tops.
Percentage of water,	85.78	81.065
" of dry matter,	14.22	18.935
" of ash,	1.26	2.190
" of ash in dry matter,	8.86	11.566

The roots of this plant contain more water those of the parsnip; 7,937 lbs. of the fresh roots contain 100 lbs. of inorganic matter; 4,566 lbs. of the fresh tops yield 100 lbs. of inorganic matter. The 100 lbs. of inorganic matter in the aforesaid weights of roots and tops contain;

	100 lbs. ash, root.	100 lbs. ash, tops.
Carbonic acid,	28.20 lbs.	23.70 lbs.
Silicic acid,	0.65 "	5.75 "
Phosphoric acid,	10.55 "	10.25 "
Phosphate of iron,	0.70 "	1.90 "

	100 lbs. ash, root.	100 lbs. ash, tops.
Lime,	3.65 lbs.	16.55 lbs.
Magnesia,	1.60 "	1.10 "
Potash,	8.50 "	4.05 "
Soda,	40.25 "	29.55 "
Chlorine,	0.60 "	3.70 "
Sulphuric acid,	4.30 "	2.60 "
	99.00	97.15

The 100 lbs. of inorganic matter in 7,937 lbs. of fresh roots could be furnished to the soil by 100 lbs. of ashes, 50 lbs. of common salt and 10 lbs. of plaster. The 100 lbs. of inorganic matter removed by 4,566 lbs. of tops is furnished by 75 lbs. of ashes, 40 lbsof common salt and 5 lbs. of plaster.

From 15 to 20 tons of roots and 3 tons of tops can be easily raised to the acre. One ton of roots removes from the soil 25.2 lbs. of inorganic matter; 15 tons remove 378 lbs., 20 tons remove 504 lbs.; one ton of tops removes 43.8 lbs. 3 tons 131.4 lbs.

Proximate Organic Composition.

	100 lbs. of the fresh root.	100 lbs. of the dry root.
Water,	85.780	
Fiber,	4.005	27.844
Sugar and extract,	7.060	49.079
Dextrine,	1.515	10.533
Casein,	0.225	1.564
Albumen,	0.860	5.978
Starch,	0.445	3.093
Resin,	0.170	1.181
Gluten,	0.055	0.382
Yelow coloring matter,	0.040	0.277
Fat,	0.010	0.069
	100.165	100.000

This root is rich in sugar, dextrine, albumen and starch, but not as much so as the artichoke. One ton of roots contains of sugar 141 lbs. of dextrine 30 lbs., of casein 4½ lbs., of albumen 17 lbs., of starch, 9lbs., of gluten 1¦ lbs. of fat ⅕ of a pound.

Besides the above bodies it contains a small quantity of citric acid and a principle which gives the peculiar odor and flavor to the carrot.

Ultimate Organic analysis.

100 parts of dry root gave, of

Nitrogen,.....	0.995
Carbon,.....	42.024
Oxygen,.....	44.017
Hydrogen,.....	5.058
Inorganic matter,.....	8.860

It is stated that Mr. C. Farmer of Ellington, Conn., has succeeded in manufacturing a superior article of woad from the tops of the yellow carrot. If this be true, it will to some extent increase the profit of this already profitable crop.

ANALYSIS OF THE BEET.

(*Beta vulgaris & B. cicla.*)

By J. H. SALISBURY, M. D.

This plant has been cultivated about two centuries. During its cultivation the varieties of these two species have become somewhat numerous. Those examined were the turnip beet, the long blood beet, the white sugar beet. The two former were furnished by Mr. Douw, of Greenbush, the latter by S. G. Noyes, Esq., of the same place. They were large, fleshy and crisp, and contained about the average amount of woody fiber. The widest average diameter of the roots of four specimens of the turnip beet 5½ inches; average length 9 inches; average length of tops 14 inches; average weight of each plant 1½ lbs.

Long blood beet.—Average length of roots 20 inches, average widest diameter 3 inches, average length of tops 21 inches. average weight of the root of each plant, 2 lbs. 2 ounces.

White sugar beet.—Average length of root 18 inches, widest diameter 4 inches.

Percentage of water, dry matter and ash.

	Turnip beet.		Long blood beet.		White sugar beet.
	Root.	Tops.	Root.	Tops.	Root.
Percentage of water,	92.845	88.905	89.095	90.57	90.55
" dry matter,	7.155	11.025	10.905	9.43	9.45
" ash,	1.113	1.530	1.080	1.85	0.995
" ash in dry matter,	15.556	13.876	9.072	19.618	10.534

The above results show the beet to be more watery than the artichoke, parsnip or carrot. They contain from 89 to 92 per cent of water, leaving only from 7 to 11 per cent of dry matter in the roots, and from 9½ to 11 per cent of dry matter in the tops. The fresh roots contain about one pond of inorganic matter to the hundred, the dry matter of the roots from 10½ to 15½ per cent of inorganic matter, the dry tops from 13½ to 19½ lbs. to the hundred. In round numbers 8,994 lbs., of the fresh roots of the turnip beet, give 100 lbs. of inorganic matter; 9,259 lbs. of the fresh roots of the long blood beet give 100 lbs. of inorganic matter; 10.050 lbs. of the roots of the white sugar beet give 100 lbs. of inorganic matter; 6,536 lbs. of the fresh tops of the turnip beet and 5,405 lbs. of the fresh tops of the long blood beet, contain each, 100 lbs. of inorganic matter.

	Turnip beet.		Long blood beet.	
	100 lbs. ash of root.	100 lbs. of ash of tops.	100 lbs. ash of root.	100 lbs. ash of tops.
Carbonic acid,.....	21.90	19.61	16.27	21.90
Silicic acid,.....	1.15	1.43	0.85	2.55
Phosphoric acid,.....	10.55	8.32	9 85	8.20
Phosphate of iron,.....	1.90	3.51	1.15	3.75
Lime,.....	8.80	5.62	1.50	10.25
Magnesia,.....	1.75	8.11	1.15	4.10
Potash,.....	8.05	8.31	13.10	7.70
Soda,.....	42.35	36.33	53.65	37.30
Chlorine,.....	0.80	2.91	0.81	0.60
Sulphuric acid,.....	1.90	5.12	1.65	3.05
	99.15	99.30	99.98	99.40

By good management 20 tons of the roots can be raised to the acre.

Twenty tons of the fresh roots of the turnip beet and the long blood beet, contain of

	Turnip beet.	Long blood beet
Inorganic matter,	445 lbs.	432 lbs.
These amounts are made up of,		
Carbonic acid,	98 lbs.	70½ lbs
Silicic acid,	5	3½
Phosphoric acid,	48	42½
Phosphate of iron,	8½	5
Lime,	40	6½
Magnesia,	8	5
Potash,	36	56½
Soda,	189	232
Chlorine,	4	3½
Sulphuric acid,	8½	7

In round numbers, the following compost furnishes in sufficient quantity all the inorganic bodies removed by 20 tons of beet roots, and even more of some of them than is required; 300 lbs. of ashes, 200 lbs. of common salt.

The tops are generally left upon the ground, hence it is not necessary to include these in the materials removed from the soil.

Proximate Organic Composition.

	Turnip Beet.		Long Blood Beet.		White Sugar Beet.	
	100 lbs. of fresh root.	100 lbs. of dry root.	100 lbs of fresh root.	100 lbs. of dry root.	100 lbs. of fresh root.	100 lbs. of dry root.
Water,	92.845	.....	89.095	.....	90.550	.....
Fiber,	2.173	29.975	2.310	20.86	2.295	24.039
Sugar and extract,	3.120	43.039	6.125	55.327	5.730	60.023
Dextrine,	1.025	14.134	1.035	9.347	0.440	4.608
Casein,	0.142	1.965	0.040	0.361	0.595	6.242
Albumen,	0.445	6.138	1.155	10.431	0.443	4.617
Starch,	0.195	2.690	0.313	2.815	trace.	trace.
Resin,	0.080	1.103	0.057	0.519	0.020	0.260
Gluten,	0.033	0.448	0.020	0.180	0.015	0.157
Red coloring matter,	0.027	0.380	0.018	0.158	.....	.....
Fat,	0.010	0.138	trace.	trace.	0.010	0.105

In the above analyses we see the nutritive powers of the beet root. The average percentage of dry matter in the fresh mature roots does not vary much from 10 per cent. One ton of the fresh roots of the turnip beet contains of sugar 62½ lbs., of dextrine

20½ lbs., of albumen, casein and gluten 12½ lbs. One ton of the fresh roots of the long blood beet contains of sugar 122½ lbs., of dextrine 20.7 lbs., of albumen, casein and gluten 24½ lbs. One ton of the white sugar beet contains of sugar 114½ lbs., of dextrine 9 lbs., of albumen, casein and gluten 21 lbs.

Ultimate Organic Analysis.

100 parts of dry root of the

	Turnip beet.	Long blood beet.	White sugar beet.
Nitrogen,.....	1.270	1.445	1.465
Carbon,.....	38.610	41.435	40.729
Oxygen,.....	39.240	42.256	41.511
Hydrogen,.....	6.054	6.514	6.529
Inorganic matter,.....	15.556	9.072	10.534

The long blood beet is the richest in sugar and nitrogen of the three varieties examined.

ANALYSIS OF ENDIVE OR SUCCORY, (*Cichorium Endivia.*)

By J. H. Salisbury, M. D.

This plant is a hardy annual, a native of China and Japan. The samples analysed were large and succulent. They were furnished by Herman Wendell, M. D., Albany. The average length of the tops 11 inches; average weight of each plant 6 ounces.

Per centage of water, dry matter, and ash in the fresh plant.

Per centage of water,.....	91.925
" of dry matter,.....	8.975
" of ash,.....	1.010
" of ash in the dry matter,.....	12.507

It will be observed that this plant is highly charged with moisture. The fresh tops contain but about 8 lbs. of dry or solid matter to the hundred, the remaining 92 lbs. is pure water. Of the 8 lbs of dry matter, a trace over one pound is inorganic matter, so that there exists only about 7 lbs. of organic matter in 100 lbs. of fresh plants.

About 5 tons of fresh plants contain 100 lbs. of inorganic matter, which is made up of

Carbonic acid,	13.80 lbs.
Silicic acid,	20.80 "
Phosphoric acid,	9.90 "
Phosphate of iron,	2.95 "
Lime,	8.05 "
Magnesia,	3.65 "
Potash,	8.90 "
Soda,	27.80 "
Chlorine,	1.40 "
Sulphuric acid,	2.10 "
	99.35 lbs.

This plant contains a large percentage of soda, and is rich in phosphoric acid, potash and lime.

Proximate Organic Composition.

	100 lbs. of the fresh tops.	100 lbs. of the dry tops.
Water,	91.925	
Fiber,	1.348	16.386
Sugar and extract,	4.300	52.279
Dextrine,	0.735	8.936
Casein,	0.100	1.216
Albumen,	1.320	16.048
Starch,	none.	none.
Resin,	0.260	3.161
Glutinous matter,	0.055	0.668
Chlorophyl,	0.052	0.638
Wax,	0.055	0.668
	100.150	100.000

Like celery, endive contains a very large percentage of water, and does not differ materially otherwise from that plant in its proximate organic composition, except that it contains less fiber, and is slightly richer in sugar and albumen.

Ultimate Organic Composition.

100 parts of dry plant, gave of

Nitrogen,	2.170
Carbon,	41.171
Oxygen,	40.257
Hydrogen,	5.617
Inorganic matter,	12.507

ANALYSIS OF CELERY, (*Apium Graveolens.*)

By J. H. Salisbury, M. D.

We have in this case an interesting and remarkable instance of the influence of cultivation upon the size, tenderness and flavor of a plant. Celery in its wild state is rank, coarse, tough, and unfit to eat, but when properly cultivated is sweet, crisp, juicy, and of a most agreeable flavor, and is then highly esteemed as a salad and as a seasoning in soups.

The sample of the celery analysed was large, succulent, crisp, and finely flavored. It was furnished by Dr. Herman Wendell, of Albany. Its average height 3 feet; diameter of stalks at base 3 inches; average weight of each plant 10 ounces.

Percentage of water,	88.225
" of dry matter,	11.775
" of ash,	1.375
" of ash in the dry matter,	11.931

One ton of the fresh plants contains in round numbers about 1,764 lbs. of water, 208 lbs. of organic matter, and 28 lbs. of inorganic matter.

100 parts of inorganic matter contain:

Carbonic acid,	20.80
Silicic acid,	5.60
Phosphoric acid,	5.40
Phosphate of iron,	4.95

Lime,	13.55
Magnesia,	0.90
Potash,	7.25
Soda,	28.80
Chlorine,	1.40
Sulphuric acid,	10.30
	98.95

The ash or inorganic matter is rich in soda, lime and sulphuric acid, and contains also a respectable percentage of phosphoric acid, phosphate of iron and potash. The 28 lbs. of ash removed by a ton of fresh plants, contain in round numbers the following bodies in the proportions given below:

Carbonic acid,	6 lbs.
Silicic acid,	1½ "
Phosphoric acid,	1½ "
Phosphate of iron,	1½ "
Lime,	4 "
Magnesia,	½ "
Potash,	2 "
Soda,	8 "
Chlorine,	½ "
Sulphuric acid,	3 "

These 28 lbs. of inorganic matter are more than returned to the soil by

30 lbs. of ashes,
8 lbs. of common salt,
5 lbs of plaster.

Proximate Organic Composition.

	100 parts of fresh plant.	100 parts of dry plant.
Water,	88.225	
Fiber,	3.168	26.705
Sugar and extract,	5.685	47.923
Dextrine,	0.905	7.629
Casein,	0.115	0.970

	100 parts of fresh plant.	100 parts of dry plant.
Albumen,	1.532	12.914
Starch,	none.	none.
Oil,	0.075	0.632
Resin,	0.185	1.559
Gluten,	0.095	0.809
Chlorophyl,	0.055	0.463
Wax,	0.045	0.396
	100.088	100.000

Almost nine-tenths of this plant is water. The dry matter is rich in sugar, albuminous principles, and dextrine. The odorous body is a volatile oil.

Ultimate Organic Analysis.

100 parts of dry plant, contain of

Nitrogen,	2.121
Carbon,	40.626
Oxygen,	40.352
Hydrogen,	5.371
Inorganic matter,	11.931

ANALYSIS OF THE MUSKMELON AND WATERMELON.

(*Cucumis melo and Cucurbita citrallus*,)

By J. H. Salisbury, M. D.

The varieties examined were the nutmeg muskmelon and the long red fresh watermelon. The fruit only was examined. Length of muskmelon 6 inches; diameter $5\frac{3}{4}$ inches. Length of watermelon 14 inches, diameter 6 inches.

Percentage of water, dry matter and ash.

	Muskmelon.	Watermelon.
Percentage of water,	90.987	94.898
" of dry matter,	9.013	5.102
" of ash,	2.771	0.248
" of ash in dry matter,	3.007	4.861

The muskmelon contains but a trifle more water than the beet. The watermelon contains more than the muskmelon and less than the cucumber. One ton of muskmelons has 174.84 lbs of organic matter and 5.42 lbs. of inorganic matter. One ton of watermelons has 97.08 lbs. of organic matter and 4.96 lbs. of inorganic matter. 36,900 lbs. of muskmelons and 40.322 lbs. of watermelon contain each 100 lbs. of inorganic matter or ash.

	100 lbs. ash Muskmelons.	100 lbs. ash Watermelon.
Carbonic acid,	11.55	11.42
Silicic acid,	2.20	1.21
Phosphoric acid,	25.40	14.93
Sulphuric acid,	3.90	1 63
Phosphate of iron,	2.30	4.52
Lime,	5.85	7.32
Magnesia,	0.60	1.31
Potash,	8.35	23.95
Soda,	34.35	30.63
Chlorine,	5.20	1.81
Organic matter,	trace	trace
	99.70	98.73

The muskmelon contains a very large percentage of phosphoric acid and soda and considerable potash; the watermelon has a very large percentage of soda and potash and is also quite rich in phosphoric acid. The occurrence of these bodies in such quantities in these plants, explains to us why dead animal matter, as flesh, bones, &c., commonsal t and ashes, have such a marked influence in promoting their growth and productiveness.

Proximate Organic Analysis of fruit.

	100 lbs. Muskmelon.		100 lbs. Watermelon.	
	Fresh fruit.	Dry fruit..	Fresh fruit.	Dry fruit.
Albumen,	0.918	10.219	0.572	11.403
Casein,	0.442	4.952	0.004	0.080
Dextrine,	1.142	12.800	0.318	6.340
Starch,	trace	trace	none	none
Sugar and extract,	5.250	58.942	3.020	60.267
Chlorophyl,	0.004	0.044	0.006	0.120
Fat, wax and resin,	0.038	0.418	0.022	0.440

	100 lbs. Muskmelon. Fresh fruit.	Dry fruit.	100 lbs. Watermelon. Fresh fruit.	Dry fruit.
Citric acid,.....	trace	trace	0.007	0.140
Malic acid,.....	0.007	0.077	0.009	0.180
Tartaric acid,..	0.005	0.055	trace	trace
Filter,.....	1.123	12.393	1.058	21.030
Dry matter,.....	8.929	100.000	5.016	100.000
Water,.....	90.987		94.898	
	99.916		99.914	

The large percentage of albumen, casein, dextrine and sugar with a small quantity of acid, show us the reason of the peculiar rich flavor of the fruit of the melon.

Ultimate Organic Analysis.

	Muskmelon.	Watermelon.
Nitrogen,.....	2.231	1.739
Oxygen,.....	43.905	43.187
Carbon,.....	44.820	43.764
Hydrogen,.....	6.832	6.872
Inorganic matter,.....	3.007	4.861

A mild but pleasant liquor can be made from the melon.

ANALYSIS OF THE CUCUMBER.

(*Cucumis sativus.*)

By J. H. Salisbury, M. D.

Two varieties only were examined, the *Early Long Prickly*, and *White Spine*. The length of the fruit of the Early Long Prickly $6\frac{1}{4}$ inches, diameter $1\frac{3}{4}$ inches. Length of the fruit of the White Spine, 5 inches, diameter $1\frac{1}{2}$ inches.

	Percentage of water. Long Prickly fruit.	Dry matter and ash. White Spine fruit.
Percentage of water,.....	96.364	96.605
" dry matter,.....	3.636	3.395
" ash,.....	.362	.382
" ash in dry matter,...	9.955	11.252

In the fruit of this plant we see a remarkable instance of the extent to which water may exist in a plant. But about 3½ lbs. of dry matter is contained in 100 lbs. of the fresh fruit. One ton would contain but about 70 lbs. of dry matter. Hence one ton of fresh cucumber fruit, contains less dry matter than 1¼ bushels of wheat. One ton of fruit of the Long Prickly, contains of inorganic matter 7.24 lbs. One ton of the White Spine, 7.44. 27,624 lbs. of fresh fruit of the Long Prickly variety, and 26,178 lbs. of fresh fruit of the White Spine variety, give each 100 lbs. of inorganic matter. These 100 lbs. of inorganic matter are severally constituted as follows:

	100 lbs. as. of Long Prickly.	100 lbs. as. of White Spine.
Carbonic acid,	13.25	13.26
Silicic acid,	0.70	0.80
Phosphoric acid,	18.90	17.26
Phosphate of iron,	3.10	2.74
Lime,	4.30	4.40
Magnesia,	0.20	0.34
Potash,	23.20	23.30
Soda,	33.75	33.86
Chlorine,	1.10	1.46
Sulphuric acid,	0.90	1.40
Organic matter,	trace	trace
	99.40	98.42

The inorganic matter, as is seen, is composed mostly of phosphoric acid, potash and soda. This would indicate that ashes, bones, and common salt, would be an excellent inorganic manure for them.

Proximate Organic Analysis.

	100 lbs. Long Prickly.		100 lbs. White Spine.	
	Fresh Fruit.	Dry Fruit.	Fresh Fruit.	Dry Fruit.
Albumen,	.356	7.778	,347	7.699
Casein,	.040	0.872	,062	1.357
Dextrine,	.354	7.736	.264	5.894
Sugar and extract,	2.826	67.756	3.036	0.065
Starch,	.002	0.044	0.003	66.624
Chlorophyl,	.006	0.132	0.005	0.108

	100 lbs. Long Prickly.		100 lbs. White Spine.	
	Fresh Fruit.	Dry Fruit.	Fresh Fruit.	Dry Fruit.
Fat, wax and resin, ...	0.31	0.682	0.029	0.629
Fiber,.....	9.61	21.000	.826	17.924
Dry matter,.....	4.576	100.000	4.572	100.000
Water,.....	95.354		99.921	

In the proximate organic analysis I obtained less water than I did when the percentage of water, dry matter and ash were determined. This resulted from the fact that portions used for the proximate analysis lost some of their water by evaporation before the analysis was commenced. Besides the above bodies, the cucumber contains a small quantity of malic acid and a still smaller quantity of citric. One ton of the fresh fruit of the Long Prickly variety contains of sugar 56.52 lbs., of albumen and casein. 7.8 lbs., of dextrine and starch 7.12 lbs. One ton of the fresh fruit of the White Spine variety, contains of albumen and casein 8.18 lbs., of dextrine and starch 5.34 lbs., of sugar 60.72 lbs. By far the greater part of the dry matter of the cucumber, is sugar.

Ultimate Organic Analysis

	Long Prickly.	White Spine.
Nitrogen,.....	1.236	1.301
Oxygen,.....	41.806	41.832
Carbon, ...	40.984	40.467
Hydrogen,.....	6 879	6.723
Inorganic matter,.....	9.955	11.252

The indigestibility of the cucumber is almost proverbial. In fact it has scarcely a parallel example in all the cultivated edible plants. In studying its composition, we can scarcely refrain from making the inquiry: what does this much esteemed fruit contain, to unfit it so much for easy digestion?

One would naturally suppose, from the tendency it has to pass through the organs without being materially acted upon by the digestive process, like most other food, that it is constitu-

ted of bodies, which are either deleterious to the system, or are not essential to its composition. If we refer to the analysis, however, we find that the bodies which compose it, are found in nutritious healthy food, and are all quite harmless; in fact, the most of them go to build up and support the several tissues of the human body, and are necessary to their healthy nutrition and growth. We, hence must conclude that the indigestibility of this fruit cannot depend upon the kind of matter of which it is composed.

Suppose now we examine the relative proportions in which the several bodies unite to form this fruit, to see if there can be anything in this direction which will throw light upon the matter.

We find in the foregoing analysis, all the bodies in very small proportions with the single exception of water. The percentage of this in the fresh fruit is equal to about one sixth per cent. May we not infer that this very large percentage of water has something to do in retarding digestion. It is well known that all of those fruits which contain a very large proportion of water, such as the watermelon, green apples, currants, cherries, &c., are very apt when taken in quantities, without admixture of other food, to produce like unpleasant symptoms, and pass through the stomach and intestines without being acted upon scarcely at all, by the powerful solvents of those organs.

Water, however, does not seem to be the only body in food, which when in great excess, may appear to retard digestion. Other substances, as casein, albumen, fat, sugar &c., when in large proportions, appear to produce like results. For instance, cheese, which is composed principally of casein, but contains also in small quantity, quite all the constituents of the animal body, when eaten alone and in quantities, produces symptoms somewhat similar to those produced by the cucumber, and is voided in a similar undigested state. The same may be said of food composed principally of either albumen, fat, sugar, &c.

May we not then infer from the above, and numerous other examples, which readily will suggest themselves to every one who

observes, that food suited to easy digestion must contain, not only the ingredients of which the tissues are composed, but those ingredients must bear some simple relative proportion to each other. That is, they should be in such proportion as is best suited tc furnish nourishment to the system with the least possible loss of undigested material.

EXPERIMENTS IN PLANTING POTATOES.

We give the very interesting and valuable experiments made by H. H. Eastman, of Marshall, Oneida county, N. Y., which have been undertaken in consequence o the premiums offered by the Society. Mr. Eastman will continue his experiments next season, and we anticipate important results from the experiments which shall be made.

THE DETAILS OF AN EXPERIMENT ON RAISING POTATOES, IN THE YEAR 1852,

By H. H. EASTMAN, of Marshall, Oneida county, N. Y.

The various experiments.	Different rows in each experiment, relatively.	Weight of seed.	Condition of seed when used.	With and without manure and how applied.	Quantity of manure used.	Weight of produce.	Bushels per acre	Remarks.
Different manure, in the hill, and no manure.	No manure.	6 lbs.	Whole potatoe.	No manure.		61 lbs. 12 oz.	166	Smooth and good sizes.
	Hog manure.	6 lbs.	do	In the hill.	Half shovel full in each hill.	100 lbs. 12 oz.	271	Some rough spots, good.
	Equal quantities of hog manure, ashes, lime and gypsum.	6 lbs.	do	In the hill.	Handful in each hill.	60 lbs. 12 oz.	163	Smooth and good sizes.
	Long unfermented manure.	6 lbs.	do	In the hill.	Two-thirds shovel full in each hill.	75 lbs. 12 oz.	203	Quite rough, good sizes.
	Compost.	6 lbs.	do	In the hill.	Two-thirds shovel full in each hill.	77 lbs. 12 oz.	209	Smooth, good sizes.
Fermented or rotted manure.	In the hill.	6 lbs.	One whole potatoe in hill.	In the hill.	Two-thirds shovel full.	78 lbs. 12 oz.	211	Some rough spots.
	On top of hill when planted.	6 lbs.	do	Top of hill.	Two-thirds shovel full.	68 lbs.	183	Smooth.
Manure of fowls.	In hill.	6 lbs.	One whole potatoe in hill.	In the hill.	Large handful to each hill	85 lbs. 4 oz.	229	Uniform in size, large and fine.
	Top of hill at planting.	6 lbs.	do	Top of hill.	do	64 lbs. 12 oz.	174	Small and poorer quality.
Ashes in hill and top of hill, after potatoes are up.	In hill.	6 lbs.	One whole potatoe.	In the hill.	Handful to each hill.	59 lbs. 3 oz.	159	
	Top of hill.	6 lbs.	do	Top of hill when up.	do	54 lbs. 3 oz.	146	
Lime in hill and top of hill, after potatoes are up.	In hill.	6 lbs.	One whole potatoe.	In the hill.	Half handful to each hill.	52 lbs. 8 oz.	141	
	Top of hill.	6 lbs.	do	Top of hill when up.	do	63 lbs. 8 oz.	144	
Gypsum in hill and top of hill, after potatoes are up.	In hill.	6 lbs.	One whole in hill.	In the hill.	Table spoonful, each hill.	60 lbs. 8 oz.	162	
	After up.	6 lbs.	do	Top of hill when up.	do	58 lbs.	156	
Early, medium and	Planted 18th May.	6 lbs.	One whole potatoe in	No manure.		53 lbs.	142	Large, uniform in size, good

late planting; soil gravelly loam.			in each hill.					
	Planted 23d May.	6 lbs.	do	do		49 lbs.	131	Smaller, uniform and fair.
	Planted 8th June.	6 lbs.	do	do		37 lbs. 8 oz.	100	Quite small and unmarketable, unfit for the table.
Large, medium and small potatoes for seed.	Large.	12 lbs. 4 oz.	One whole in hill.	No manure.		80 lbs.	215	Large, uniform in size, good quality.
	Medium.	6 lbs.	One whole in hill.	do		50 lbs. 8 oz.	135	Smaller, uniform in size and good.
	Small.	3 lbs. 7 oz.	One whole in hill.	do		43 lbs. 8 oz.	117	Very small, inferior and unmarketable.
	Small.	6 lbs. 14 oz.	Two whole in hill.	do		51 lbs.	138	Very small, unmarketable.
	Small.	9 lbs.	Four whole in hill.	do		63 lbs.	167	Very small, unmarketable.
Large potatoes, cut and uncut, for seed.	Large.	10 lbs. 6 oz.	One whole in each hill.	No manure.		71 lbs. 8 oz.	192	Large, uniform in size, good
	Large, halved.	10 lbs. 6 oz.	Two halves in each hill.	do		81 lbs.	217	Little smaller, but good and marketable.
	Large, halved.	5 lbs. 3 oz.	One half in each hill.	do		52 lbs.	139	Good size, good quality and marketable.
	Large, quartered.	9 lbs.	Four quarters in each hill.	do		58 lbs.	156	Smaller and much inferior.
Sulphur and no sulphur.	Sulphur, after potatoes are up.	6 lbs.	One whole in each hill.	After up.	Teaspoon full to each hill	44 lbs.	116	Poor quality.
	No sulphur.	6 lbs.	One whole in each hill.			52 lbs. 3 oz.	140	Fair quality.
Saltpeter and no saltpeter.	Saltpeter, after potatoes are up.	6 lbs.	One whole in each hill.	After up.	Teaspoon full to each hill	52 lbs.	139	Fair quality.
	No saltpeter.	6 lbs.	One whole in each hill.			53 lbs. 8 oz.	143	Fair quality.
Gypsum.	Top of the hill after up.	6 lbs.	One whole in each hill.	Top of hill after potatoes up.	One tablespoon full to each hill.	58 lbs.	156	Uniform in size, and good quality.
	No gypsum.	6 lbs.	One whole in each hill.			48 lbs.	130	Smaller in size, and quality not so good.
Early, medium and late planting; soil mucky.	Planted 18th May.	6 lbs.	One whole in each hill.			74 lbs.	201	Large and good quality.
	Planted 28th May.	6 lbs.	do			67 lbs.	182	Smaller and poor quality.
	Planted 10th June.	6 lbs.	do			56 lbs.	147	Small and unmarketable.
Compost and fresh or unfermented manure, in the hill, and spread	Compost in the hill; 5 rows, 5 hills in the row, three feet apart forming a square.	6 lbs.	One whole in each hill.	Compost or rotten manure, in hill.	Two-thirds shovel full in each hill.	73 lbs.	200	Potatoes good size, exterior rough and worm eaten.

DETAILS.—(CONTINUED.)

The various experiments.	Different rows in each experiment, relatively.	Weight of seed.	Condition of seed when used.	With and without manure and how applied.	Quantity of manure used.	Weight of produce.	Bushels per acre	Remarks.
broadcast upon the surface.	Compost, spread broad cast on the surface; 5 rows, 5 hills in the row, forming a square.	6 lbs.	One whole potatoe in each hill.	Compost or rotten manure, spread broad cast on surface.	An equal quantity with that in the hill.	59 lbs. 12 oz	159	Good size, smooth, and good quality.
	Long or unfermented manure in hill; 5 rows, 5 hills in the row, forming a square.	6 lbs.	One whole potatoe in each hill.	Unfermented manure in hill.	Two-thirds shovel full in each hill.	83 lbs. 8 oz.	224	Good fair size, rough exterior, and some worm eaten.
	Long or unfermented manure spread broad cast on the surface; 5 rows, 5 hills in each row, forming a square.	6 lbs.	One whole potatoe in each hill.	Unfermented manure spread broad cast on surface.	An equal quantity with that in the hill.	91 lbs. 4 oz.	245	Large, fine, uniform in size, and good quality.

The ground upon which the above experiment was tried was greensward, plowed early in the spring, nine inches deep; soil gravelly loam, except as otherwise stated. Planted 18th May, except as otherwise stated. Hoed twice; first 18th of June; second, about two weeks after. The cultivation was intended to be as nearly alike as possible. Taken from the ground as soon as the vines were dead, which was not till killed by frost. All the rows, except as otherwise stated, consisted of thirty hills each, three feet apart each way. All the potatoes were free from the rot. The kind of potatoes planted was the red potatoe, which here goes by the name of "Irish Lunkers."

REPORT OF DELEGATES TO MARYLAND STATE FAIR.

To the Executive Committee of the N. Y. State Ag. Soc.:

The subscribers, in pursuance of their appointment, attended the annual exhibition of the Maryland State Agricultural Society, which was held at Baltimore, the last week in October. We arrived there on the second day of the exhibition, and two of our number remained until the close of the exhibition. We were received by the society and its officers with great cordiality, and every desired facility was afforded us for a complete and thorough examination of their exhibition, which was highly creditable to the State, and upon the whole, one of the best exhibitions the society has had.

The society had permanent grounds of about twenty acres in extent, which are enclosed with firm and substantial fence, and suitable buildings erected for the society; permanent stalls for cattle, horses, sheep and swine, and abundant grounds for the display of implements and machines. A permanent building is erected for household manufactures, fruit, &c., and one also for vegetables. The arrangements are most complete and satisfactory, and afford far better accommodation for exhibitors than can be secured from temporary erections.

A deficiency existed in the arrangement of the stock which caused much more labor to the committees than was desirable. The cattle, instead of being arranged by breeds, as placed upon the premium lists, were arranged without reference to this, each breeder having all his stock together. This was a very great convenience to the breeder, but does not give the judges that opportunity of forming correct opinions as to the relative merits of animals, which they could do if they were placed near to each other, and could readily be examined together, and their points fully compared.

The exhibition of cattle was quite extensive; embracing Short Horns, Devons, Ayrshires, Alderneys, Holstein or Dutch, Grade and Native, and one Hereford, and one Tyrolese. There were many valuable animals exhibited, showing most clearly that commendable attention is being given to the improvement of stock.

Much attention is bestowed upon cattle for the dairy. The Ayrshires are great favorites with many, and there were seventy of this breed exhibited, and many of them remarkably fine animals; and a large number of grade animals one-half to three-quarters Ayrshires, which shewed great prominence in their milking qualities, and many of them were fine animals in every respect. The Alderneys were also exhibited to the number of twenty-five, showing that this superior breed, in the butter dairy, is appreciated here somewhat as it should be; for when truly superior butter is an object, especially for the family, the Alderney cow should form a portion at least of the dairy herd. The testimony to their value in Maryland is the same that this breed sustains abroad.

The Holstein cattle are large animals, and celebrated as milkers. They are increasing in favor here, several having been imported the last year.

Some of the Grade stock for beauty and symmetry were scarcely excelled by any animals upon the ground, and for the purposes of the farmer are doubtless equal to the full-bred animals, and in many instances, superior; but to have animals of this description, we must preserve in their purity, the breeds from which the cross is made.

The display of horses was quite large, and in some departments, very good. Some fine blooded horses were upon the ground, which gave evidence of their descent, and their stock showed the importance of securing thorough-bred sires for the improvement of our horses. The Black Hawks and Morgan horses have been introduced here to some extent, and are meeting with much favor.

The show of jacks and mules was quite large, and many animals of merit. We were impressed with this exhibition, of the importance of the use of these animals upon the farm, for farm work; and we entertain little doubt that their introduction to some extent in our State, would prove highly beneficial.

The sheep mostly shown here, were Long and Middle Wooled. The wool of the former is used for manufacturing cloths for ser-

vants, and that of the latter for fine cloths; but the main object is the mutton. The show of Cotswold sheep was unusually fine, equaling, probably, any of the English exhibitions in quality. These sheep lay on fat readily, carry great weight of carcass, and in the hands of those who have hitherto been the principal breeders here, have been found quite profitable. The South-Downs shown were very fair, and some of them superior; but taken together, did not equal the Long Wooled sheep. They are raised here quite extensively, and their mutton bears the palm of superiority, as it does everywhere, where the sheep are skilfully bred.

Swine were shown in great numbers, and of remarkable excellence. The large breeds were favorites here. The Chester, Leicester, Russian, &c., and a cross of these with the Berkshire, presented some remarkably fine animals; and taken as a whole, the show of swine was probably more perfect than any other. It is rare to see as many fine animals together of this description, as was here shown. We do not deem it desirable to go into particulars, as to our own individual preferences as to breeds, but we are all of the opinion that a show as extensive, and at the same time with as many superior animals as were present, is seldom witnessed.

The poultry show, which is now attracting attention everywhere, was very large; there being upwards of 300 coops filled with almost every variety and subdivision of varieties which the country produces. The large breeds were in great force; and with such multitude of varieties (if the names given to each are to be credited) as to require quite an estate to buy a selection of each. From our intercourse with gentlemen at the show, we are satisfied that this matter begins to be well understood; and that it will not be very difficult to make people understand before long, that the great variety of names given to imported fowls of a certain class, do not, in fact, represent but a very few varieties. It is hoped that on this subject, a correct understanding will soon prevail; and thus, much be saved to purchasers who now purchase in many cases without any practical acquaintance with the subject.

We have seldom seen finer specimens of the various breeds of hens, turkeys, ducks, geese, &c. The sales were quite exten-

sive; the prices satisfactory to the seller, however they may prove hereafter to the purchaser. We think there is little danger of there being any deficiency of the various breeds for some time to come at least.

The display of vegetables not large, but remarkably fine in quality. Household manufactures, fruits, &c., not extensive, but were excellent in quality. They exhibit here hams cooked, and bread also is regularly shown, and the choice hams and fine bread which were presented, give assurance that the ladies of Maryland, in this department, present samples that it is difficult to excel in any part of the world.

The plowing match came off on Thursday, and was attended by Judge Van Bergen. The ground was unfavorable and very dry, but the performance was creditable, though the plows generally were too light for the work required of them.

The implement department was a very interesting one. Almost every variety of implements in use in our country, were here shown; most of the machinery in operation upon the ground. Several new implements were present, which promise well, but more thorough trial is needed to determine their full value. Some excellent iron rollers, which are very valuable implements for the farmer, were shown and tested. Some new grain separators that promise well. A new side-hill plow, with moveable beam and moveable mold boards, attracted much notice, and those who had used it spoke very well of it, not only for side-hill plowing, but for level lands, saving much labor, and avoiding the dead furrows which are made by the system of plowing lands usually adopted. A new sub-soil plow from Philadelphia, was also on exhibition, which is claimed to be far superior to those ordinarily made. We were promised samples of these plows for our rooms, and shall hope to receive them for the examination of our farmers.

We were present at the evening meetings of the society, at which matters of interest to the farmer were discussed, and we were highly gratified with the proceedings.

Mr. Johnson having been called upon to deliver the annual address before the society, after much hesitation yielded to the

urgent request of the society, and addressed a large audience on the last day of its meeting upon the show grounds.

We desire to express our thanks to the gentlemen of the society, for the attentions we received while with them, and hope that we may have the opportunity of returning to them the civilities we received, at some future meeting of our society.

From the benefit we ourselves have derived from this visit, we are satisfied that a more frequent exchange of courtesies of this character would prove highly advantageous. We need to know more of the practices of farmers in other parts of the Union, to learn what is most advantageous and useful in their practices, and what can successfully be introduced among our farmers for their improvement. We trust this interchange will be continued and extended, as we cannot doubt the great advantages that will result from it. We were gratified at meeting at Baltimore, with Mr. Becar of Long Island, and Mr. Wainwright of Dutchess.

Respectfully submitted,

B. P. JOHNSON,
WILLIAM KELLY,
A. VAN BERGEN.

October 30, 1852.

REPORT OF J. STANTON GOULD,

Delegate to the Fair of the R. I. Society, on Improvement of Agriculture.

To the Executive Committee of the N. Y. State Ag. Soc.:

The undersigned, delegate of the Society to attend the fair of the R. I. Society for the Encouragement of Domestic Industry, reports: That he attended the fair held at Providence on the 15th, 16th and 17th of this month. It was very numerously attended, and there was a very valuable and interesting collection of articles, arranged in a very attractive manner. There were 1,059

entries, exclusive of animals, poultry, fruit and vegetables. Among the cattle there were 2 Durham bulls, 4 Durham heifers and cows, and 2 Durham calves, 7 native bulls, 35 native cows, 16 pair of working oxen, 3 Ayrshire bulls, 1 Ayrshire cow, 2 Suffolk hogs, 1 Leicester buck and 2 Leicester ewes, 2 South-down bucks and 4 South-down ewes, 4 sheep from the Spanish Main, and several Merinos. There was a very large exhibition of fowls of all kinds, equalling our own show at Utica in all respects. The Creoles, or Bolton Greys, and the Chittagongs, seemed to be the favorites among the farmers. The exhibition of fruits, flowers and vegetables was very large, considering the limited area of the State. The exhibition of apples was superior to ours; that of grapes was very much inferior.

Among the new inventions brought into public notice for the first time here, two stood pre-eminently conspicuous for originality, ingenuity and practical utility. The first was a newly invented spinning machine, exhibited in operation by Yates & Jenks, of Centerville, R. I. It had ten spindles, and could spin No. 200s with ease. While I was examining it, it spun No. 80s yarn at the rate of 75 inches per minute. Its introduction will materially cheapen the operation of spinning in our factories. The other machine is called the Indian Rubber Peacemaker Washing Machine. It is not saying too much to assert that the machine *perfectly* imitates the action of a woman's hand, both in the degree of pressure and the mode of rubbing. It is precisely the article needed by farmers, and will be as cordially welcomed by their wives and daughters, as the best mowing and reaping machines have been by themselves. It is sold at $10, and invented by E. L. Evans.

The display of manufactured goods was, as might be expected from the reputation of the State, of the very highest character. The brown and bleached shirtings and sheetings; the printed calicoes and muslin de laines, were got up in the very highest style of art, and the cassimeres, broadcloths, and other manufactures of wool were equal, if not superior to those that I have seen at any exhibition

The shawls, both plain and embroidered, presented by the Peacedale manufactory, were exceedingly beautiful, and are probably superior to those of any other manufactory in New-England. This institution is now in the thirty-third year of its existence, and has a capital of $18,000 securely invested, the interest of which, together with the avails of its annual fairs, is ample for all its necessities.

The society originated in the town of Warwick, from the difficulty experienced by farmers in matching their steers. Much time was often expended by riding around to procure a match, that might be saved could they know where to go in the first place. An association was therefore formed, the members of which agreed that once a year they would meet at some place to be designated annually by the society, bringing their steers with them, so that all the farmers had a better chance to match their cattle, and to sell and buy at fair prices. This plan was found to work so well that cows, and afterwards hogs and sheep were annually brought to the show. In its origin it was really a fair, at which buying and selling only was thought of. This small beginning in the town of Warwick has gradually expanded into the present society.

There are some points of difference between our fairs and theirs which it may be useful to notice. In the first place, there is here a disposition on the part of contributors to bring the things of the *olden* as well as the modern time, time, for exhibition. Visitors are therefore better qualified to judge of the march of improvement when they see the implement or the manufacture of to-day in direct contrast with the implement or manufacture which it has superceded. Among other relics of the olden time, I noticed a bell metal skillett, which was cast in 1730, the names of the five generations who had used it were on the card, but the name of the first owner was lost. A dress made of very coarse linen, of an olive color, and richly embroidered, was exhibited, which had been worn by a lady of Providence in the presence of the royal governors of the colony prior to the revolution. It had a boddice waist, like the fashion of the present day, but no farm laborer now wears so coarse a fabric as

was worn with pride in the presence of the vice-royal functionary of the old colonial days. An old Bible, printed in A. D. 1599, which had comforted the hearts of the old pilgrim family of Ely, in the time of Archbishop Laud's persecution, was placed in juxtaposition with the most exquisitely printed and superbly bound bibles of the present day. One feels, on comparing them, the immense strides which have been made in the typographical art in 253 years.

The second point of difference between the R. I. exhibition and ours, was the greater amount of strictly *household* manufactures. The display of knitted stockings, homespun woolen and linen yarn, diaper, and linen sheeting, was very fine, and spoke loudly in favor of the domestic virtues of the Rhode Island ladies. There were also a large number of competitors for the premium for household bread, each competitor furnishing her receipt for making. I was not more impressed with the usefulness of any part of the exhibition than with this. So far as I recollect we have never had any specimens of this indispensable article of food at our fairs.

The third point of difference was the difference between our standard of excellence for cattle and theirs. Ours is to have an animal which has the greatest bulk in the smallest compass, and one which accumulates the most flesh on the most profitable parts. The R. I. farmer cares nothing about the beef making qualities of an animal, he requires the greatest power of draft, and the greatest amount of milk without reference to its butter making properties. Hay and pasture are more valuable in R. I. than in any other State of the Union, hence it is cheaper for them to buy full grown animals raised at points where hay and grass are cheaper, and they find the sale of milk more profitable than the manufacture of cheese and butter, hence the cow that will give the greatest amount of milk, without reference to cheese or butter, is the most profitable. Owing to this difference between the wants of the farmers in New-York and Rhode Island, an animal which would take a first premium with us would receive no premium here, and a first class animal here would be considered almost worthless with us.

I endeavored to present the plans and objects of our Society with reference to agricultural education, the *thorough* trial of implements, the performance of well conducted and reliable experiments in agriculture, and the collection of authentic statistics, before the board of managers of the R. I. Society, and at their request reduced them to writing. The board assured me of their willingness to co-operate with our society for the furtherance of these objects.

They have already accumulated some very valuable statistics collected from every farmer in the State, by agents paid by the Society, which were kindly given to me by S. H. Smith, Esq., chairman of the board of managers. From these accounts it appears the average production of Indian corn from an acre is $30\frac{1}{2}$ bushels, the maximum being 100 bushels. The average of rye is $12\frac{3}{4}$ bushels, the maximum production is 40 bushels. The average crop of onions per acre is 377 bushels, the maximum production is 600 bushels per acre. The average production of carrots is 421 bushels per acre, and the maximum production is 1000 bushels. The total value of the agricultural productions of the State is $3,072,837, being an annual increase from each acre of improved land in the State of $8.61.

JOHN STANTON GOULD.

REPORT OF JONATHAN EDGCOMB,

Delegate to Ohio and Michigan State Fairs.

B. P. Johnson, Esq., *Secretary*, &c. :

Sir—It is with diffidence I address you on the subject of agricultural exhibitions in our country, for they have, in many instances, transcended my most sanguine expectations.

Being one of the number appointed by your Executive Committee as a delegate to the State Agricultural Exhibitions of Ohio and Michigan, and not having seen any account in our journals from the pen of any of my honorable colleagues, in reference to those State Fairs, permit me to give you a brief statement of what

came under my observation while attending the fairs, and during my travels in the State of Michigan.

The State Fair for Ohio was held at Cleveland, (the Forest City, so called from the great number of shade trees that adorn the place,) in September last. There were about forty acres well enclosed; the halls were large and well arranged, and a very extensive preparation of sheds and pens, for stock of all grades; and they were all well filled.

The great amount of neat stock, for large size and good condition, especially the working cattle, was rarely if ever exceeded at any cattle show or state fair in the United States, (but for variety of good blooded cattle the exhibitions in the State of New-York have not been exceeded;) the horses, sheep and swine did honor to the *Buck Eye State*: yet New-York, on the part of sheep and farm implements, might come in for a small share of the general commendation; but still the manufactured articles produced by Ohio were in great abundance, and of good workmanship; the products of the dairy were large and of good quality; the cheese in particular, one of which, made in Ashtabula county, weighed, at the time of exhibition, more than half a ton; it was stated that 1,500 lbs. of curd was put into that cheese.

The vegetables, fruits and flowers, were good and well arranged in the different halls; also of the fine arts, a good display; the ladies and gentlemen of Cleveland and vicinity are entitled to credit in this department.

One thing was worthy of note; a blacksmith had invented a very simple machine, in which a sledge hammer was fixed, with a good length of handle, and with the foot on a treadle connected with the machine, he gave force to the sledge hammer equal to the power of a man; at the same time holding and tending the iron that was operated on, and using a hand hammer. I considered this a great labor-saving machine for slitting up iron by one man, as well as for drawing iron for general use among farmers.

The receipts were large into the treasury during the fair, but it ought to be understood that the admission fee at the gates for the

multitude was twenty-five cents, while at the fairs in this State no more than twelve and a half cents are collected.

I arrived in Detroit on the morning of the 21st of September, and attended the Michigan State Fair at that place for three days; it was a good exhibition for that young and growing State; it could not be expected by any honorable means that the quantity of stock, farm implements or field products should be equal to Ohio or New-York, yet there were some very good cattle, horses, &c.; of wheat and corn, the samples were very fine. The vegetables and fruits were highly commendable, particularly apples and peaches, which were very fair, of large size, and excellent quality. The butter and cheese did honor to the domestic department, especially from Oakland and Lenawee counties.

The exhibition of the fine arts was of the best kind on the part of the ladies; I have never seen, at any time or place, those that would transcend them; whether they were perfected in America or Europe I am not able to say.

I also attended the county fairs of Calhoun, at Marshall; Kent, at Grand Rapids, and Kalamazoo, at Kalamazoo. They were well attended, with good specimens of stock of different kinds; the exhibition at Kalamazoo was equal to almost any county in Western New-York. The samples of wheat were better than any I have seen west of *this State*, and north of the Ohio river, and east of the Mississippi. I am decidedly of opinion that Michigan is producing the best wheat of any western State; I was credibly informed that sixty bushels to the acre had been grown on a farm in Calhoun county.

There is an inexhaustible fountain of gypsum at Grand Rapids, of the purest kind, some of which is the most translucent of any I have ever seen. Large quantities of this is used by the farmers, in different parts of the State, with good success in growing grain or clover, and is a source of great wealth to the State.

On the peninsula of Michigan, internal improvement is progressing; the population is rapidly increasing. Agriculture and horticulture, in many places, is being brought to no small degree

of perfection; the soil is easy for tillage, and when properly tilled richly rewards the husbandman for all his toil.

It is with pleasure I have to say, that no where in the five States that I have traveled in during the past season, have I found finer fruit than in Michigan, particularly *peaches*: the good flavor was equal to those grown in New-Jersey.

The address at the State Fair at Detroit, was an excellent production, and most admirably developed the resources of the State, and did honor to the author; and the address delivered at Marshall, by a citizen of Calhoun county, was rich with the science of agriculture.

Very respectfully yours,

JONA. EDGCOMB.

COUNTY ASSOCIATIONS.

Returns will be found from about fifty county societies, and a perusal of them will show that the progress of improvement in this State has been most encouraging during the year. The returns from most of the counties give evidence of a very deep interest in the subject, and the almost universal expression in relation to agricultural education, must convince the most casual reader, that a spirit has been aroused on this important subject that will not be satisfied, until we shall have placed within the reach of the sons of our farmers and mechanics an institution that shall furnish them with such an education as is desired.

During the past year the Secretary visited several of the county societies, and delivered addresses to the farmers. In every county where he visited the societies, he was most amply repaid by the cordial welcome he received, and by the enlightened and liberal spirit manifested by the farmers and mechanics in sustaining their organizations. Inquiries, as to the best methods of cultivating crops, as to cattle, sheep and horses, best adapted to particular localities, were frequent, and an evident desire was everywhere apparent to improve upon old systems, and to secure such information as would lead to a more perfect and complete system of farming.

The surveys of counties, which have been undertaken by the society, has opened to the farmers a new field of inquiry; and the desire to secure these surveys is such, that if the Society had the means at command, and the men suited to the work, it would take but a few years to secure complete agricultural surveys of the whole State, by which our resources would be fully developed, and the system of husbandry best adapted to the different portions of the State be secured.

Every year adds to the opinions heretofore expressed, of the great advantages resulting from the county organizations. In the counties where they have been most fully sustained, the evidences of the good resulting from them are so manifest, that every year adds to the number of those who are enrolling themselves as members to aid in the good work in which they are engaged.

We trust this will continue, until all our counties shall be thoroughly aroused to the importance of systematic and enlarged effort for the advancement of agriculture; and the time is not far distant, when our whole State will show to all that we have established a system of husbandry, that developes in a marked degree the resources of our noble State.

ALBANY.

COEYMANS TOWN ASSOCIATION.

Transactions of the Coeymans Town Agricultural Society, held at Coeymans Hollow on the 29th and 30th days of Sept., 1852.

This being the second annual fair held by the society, it had attracted general notice by the inhabitants of the town and the adjoining towns. The farmers came together *en masse*, bringing with them something to contribute to the exhibition. The varieties, quantities and numbers of specimens of all branches of industry exceeded the most sanguine expectations. It had generally been understood that no premiums would be awarded but through the indefatigable exertions of our worthy President, James W. Jolly, the magnanimity of Judge Vanderzee, and the small initiating fee, the society awarded about one hundred premiums. It was estimated that three thousand or more persons attended the exhibition each day, and we have yet to learn that one word of dissatisfaction or disapprobation was heard. Every one appeared to be surprised and elated to see the quantity, quality and variety of articles brought together. Many present who had never before taken an interest in the society, expressed a desire to see it thoroughly established, and a permanent fund created for its future operations.

Awards were made upon the several varieties of horses, cattle, sheep, swine and poultry, and upon domestic manufactures, implements, fruits, flowers, &c. Now the result of the whole exhibition was in the highest degree encouraging, and will not be lost in its influence upon the county. Already has a notice been given for the formation of a county agricultural society, and there is little doubt that an effectual one will be organised.

DANIEL SPEAR, *Secretary.*

ALLEGANY.

The annual fair and cattle show of the Allegany county Agricultural Society was held at Angelica on the 15th September, 1852, and was attended by a large number of the citizens of the county, and there appeared to be an increased anxiety on the part of the farmers for the prosperity of the society. The show of bulls, cows, heifers, oxen, steers, fat cattle, calves, sheep, hogs, fowls, &c., of butter, cheese, maple sugar, garden vegetables, honey, fruit, flowers, &c., was gratifying to all. The show of stud horses, matched and working horses, mares, colts, &c., was better than on any former occasion. The show of domestic manufactures was fully equal to any former exhibition, and showed that the ladies contributed their full share in keeping up the interest of the society.

The society had funds from last year,.....		$248 12
Received from voluntary subscription,.....		133 00
Received for interest,.....		13 58
Received from State Treasurer,.....		93 00
		$487 70
The society paid premiums in cash,.....	$224 00	
Incidental expenses,.....	5 61	
Cash on hand,.....	258 09	
		$487 70

The society have awarded 30 volumes of the Transactions of the State Society for premiums, and has given to each member of the society a volume of Transactions.

This county is best adapted to grazing and stock raising, and the dairy interest is increasing. There are also large quantities of oats, wheat, corn, potatoes and barley, &c., raised in the county. There is a large lumber business done in the south part of the county, which with the New-York and Erie railroad, affords a good market for the surplus products of the farmer. Our farmers are now getting from $7 to $9 for their surplus hay; 38 to 40 cents for oats; 20 to 25 cents for butter. Large quantities of these articles have been bought and sent to New-York by the Erie railroad. The crops of hay, oats, wheat, barley, &c., will probably average with former years. Corn was hardly as good. Potatoes are much better than formerly, both as regards the quality and quantity raised. There has been a great increase in the value of farms and farming lands in this county, owing to the increased value of the products of the farmer and a ready market.

Officers of the Society for 1853.—Joel Karr, of Almond, President; J. G. Osborn, Lewis Utter, E. B. Winans, Stepto Woodruff, Daniel R. Stillman, Isaac Miles, Vice Presidents; Ezra Starr, Angelica, Secretary; James Lockhart, Angelica, Corresponding Secretary and Treasurer.

JOEL KARR, *President.*

BROOME.

BINGHAMTON, (BROOME COUNTY,) }
5th January, 1853. }

BENJ. P. JOHNSON, ESQ., *Secretary, &c.*

My Dear Sir—I could not comply with the request in your letter of the 16th of October, as early as as you desired, and I could hardly spare a moment now, but for a desire to make some re-

turn for your repeated favors, and, if possible, to add a mite to the history of our agriculture. I can not answer your inquiry, "What is the chief production of your county," by a single word. The surface of the county is very much diversified, and the soil, embraces a great variety of sorts and quantities, and therefore its natural and cultivated productions are equally various.

Almost all kinds of grains, fruits and vegetables, which are suitable to this latitude, are produced with reasonable certainty and cheapness, and in remunerating abundance.

Our county is traversed by the Susquehanna and Chenango rivers, and their tributaries, the Tioughnioga and Otselic, and by numerous creeks, along whose vallies is excellent corn land, and the hilly ridges between them are all tilable, and productive of wheat and other cereals, especially on the oak and chestnut soils, which greatly prevail; and all of our land yields abundant pasturage. Those portions which were originally clothed with beech, maple and hemlock timber, are generally esteemed the best grazing farms.

The surface of our county is, as I have remarked, quite hilly, but not as *mountainous* as might be supposed, by a hasty traveller on our great thoroughfare, the New-York and Erie railroad. The hills nearest the river, where the road passes, are generally the highest, but seldom rise higher than from 200 to 400 feet above the rivers, and their slopes are gradual, and their summits smoothly rounded off, and often flattened into large tables, *all* being tilled or tilable land. In no part of this county, with the exception of a very few localities in two towns, is there any rock on the surface, or the landscape disfigured or embellished by a ledge or cliff, or an unsightly acre of land. There is, moreover, but a trifle of marshy or swampy land.

In view of these facts, it must be obvious, that the county of Broome, under good culture, must support as large a population as almost any in the State, in proportion to its acres, and a great deal larger than many of the old counties, now standing as the best and richest.

The same may be predicted of four or more of the counties next west of us, in the southern tier.

For the purpose of determining what are the chief products of the county with as much precision as I could, I have gathered some statistics of *all* the important ones in two towns—one of which is as good a grain growing one as any, and the other one, which is considered rather better adapted to grazing than grain growing, though it has the Tioughnioga running about ten miles through it. I could not well go on with the estimate of the whole county for want of time.

THE TOWN OF CHENANGO.

I estimate the number of acres of improved land at 24,450

The numbers of farmers..... 380

Corn crop in	1852,	estimated,	32,500	bushels,	6s.,	$24,375
Oat crop	"	"	106,650	"	44c.,	46,926
Wheat crop	"	"	10,210	"	8s.,	10,210
Rye,	"	"	8,250	"	6s.,	6,187
Buckwheat,	"	"	12,500	"	4s.,	6,250
Potatoes,	"	"	60,000	"	2s.,	15,000
Butter,	"	"	160,700	lbs,	22c.,	33,154
Wool,	"	"	11,300	"	31c.,	3,503
						$145,605
Value of live stock,.....						136,400
						$282,005

Value of animals slaughtered by farmers,				in	1852,	$24,700
"	"	"	by butchers,		"	80,000
6,600 tons hay, $12,.....						79,000

I estimate the acres, improved land in the town of BARKER at 13,900

The number of farmers at..... 194

The crop of	corn,	in	1852,	at 6,040	bushels, 6s.,	$4,530
"	oats,	"		30,800	" 44c.,	13,552
"	wheat,	"		3,400	" 8s.,	3,400
"	rye,	"		2,710	" 6s.,	2,032 50

The crop of buckwh't, in 1852 at	2,800	bushels	4s.,	1,400	
" potatoes, "	21,000	"	2s.,	8,250	
" butter "	98,600	"	22c.,	21,692	
" wool, "	7,960	"	31c.,	2,467	60
Value of live stock,.....				68,510	00
				$122,864	10

Value of animals slaughtered by farmers,.....	$13,200
" " by butchers,.....	4,000
4,600 tons hay, $8,.....	36,800

The animals slaughtered in Chenango were, many of them of foreign production.

If you desire to know anything more of the condition of the county, and its business and resources, I would add, that large quantities of agricultural produce, salt, lime, plaster, hydraulic cement, &c., are brought into Binghamton, its chief business village by the Chenango canal and railroads, and transported to the Delaware and Lackawanna country; and also a large amount of lumber and coopers' stuff, is manufactured and sent to market from this county.

The Lackawanna railroad, also, brings to Binghamton a considerable quantity of anthracite coal, which, after supplying the wants of the immediate vicinity, is sent on the Chenango canal, through the counties of Chenango, Madison and Onondaga, to lake Ontario; and when the other railroads, which are in contemplation, are completed, which will be done in about two years, that branch of trade will be increased immensely.

There is obviously a difficulty in estimating, with accuracy, the nett income of farms, from the above statement. I can not state the cost of production of the several articles, or what portion of the value of live stock and slaughtered animals should be set down as a yearly increase, or what portion of the hay and grain may have been consumed in their growth and fattening. I therefore *assume*, that the cost of producing grain, butter &c , is equal to one half the value, as farms in this country are generally let on this assumption—the tenant doing all the work and giving the landlord half the crops.

The grain, butter and other productions, of the town of Chenango, exclusive of hay and stock, is.....$145,605
In Barker, is..... 54,324 10

It appears, from the foregoing, that what is called grain lands are much more productive, even including hay, than grazing farms; since the use of manures of various kinds has become more general, it is known that any land which produces grain well, can be converted into good pasturage and meadows.

The amount of improved land in this county is rapidly increasing, and farms are being improved in the character of their buidings and fences, and farmers are employing a style of more thorough tillage, but are still far below a proper standard; and but little attention is paid to the improvement of cattle, which are chiefly of the native breeds, with a sprinkling of Devon and Durham blood.

The value of farms has consderably advanced within a few years, and is still improving, by reason of the construction of the railroads terminating in the center of the county, and the influx of purchasers, who are attracted by the comparative cheapness of farms, the productiveness, of the soil, the salubrity of the climate and beauty of the scenery.

The lumber region of the Delaware river, the coal mining Lackawanna valley, and New-York, are the chief places where our products are marketed. The cost of transportation to New-York is from twenty-five to fifty cents per thousand pounds.

A. DOUBLEDAY.

CAYUGA.

The annual fair of the Cayuga county Agricultural Society, was held at Auburn on the sixth and seventh of October, 1852. The weather was very pleasant, and the display of the various animals and articles usually exhibited on such occasions, was very good. The horses of all kinds were good, especially the matched horses. The show of sheep was also excellent, es-

pecially the fat sheep. The plan adopted by the State Society of making a show of fat animals of the various kinds, also a show of poultry alive, as well as dressed, is a plan by which all the county societies might be benefited, and which, I think, this society will adopt.

The society has for the past few years, adopted the plan of the State Society in putting up a fence and charging an admittance fee, by which they have been able to pay their premiums and expenses. We have been thinking of buying a piece of ground and putting up a permanent fence and renting it for pasture or other purposes, and thus saving the expense of putting it up and taking it down every season, and cost of lumber, which are very expensive.

The land in this county, and more especially in the vicinity, has advanced very much in price and availability; and this has been caused by draining. They, (I mean the small farmers,) have seen the experiment tried, and found it succeeds beyond any of their conceptions; the land that a few years since was swampy and boggy, is now perfectly dry, and raises as fine wheat as is grown on any upland in the county. The greatest difficulty is found in not getting drain tile enough, the demand is so great. They are also much preferable to stone ditch, as they last longer and are cheaper. There has been a great many cattle and hogs fed in the county this winter for eastern markets, and I will send you the statistics of shipment at the railroad depot this winter in a few days.

The winter meeting was held in February, and elected the following officers:

Elisha W. Shelden, President, Sennett; a Vice President from each town in the county; Treasurer, Henry H. Bostwick, Auburn; Recording Secretary, S. S. Graves; Corresponding Secretary, Phineas Hurd, M.D., Scipio.

There is quite an excitement amongst the farmers of the county as regards labor-saving implements, in regard to which is the cheapest, most durable, and the best worker. As the mowing

machine worked so finely last season, and so many persons making them, I proposed to the society to have a trial of them in July, and give a premium from $25 to $50 for the best mower, and I think every county society would be the gainer by it, as it would not be so far off but that most of the persons in this county that had any desire to see them work, might do so at little or no expense.

LYMAN O. SHERWOOD,
President.

Statement of the financial condition of the Cayuga County Agricultural Society, January 1, 1853.

Balance in treasury, January 1, 1852,..		$155 66
Receipts of fair, October, 1852,.....		639 26
Received from State treasury,.....		151 00
Subscriptions, &c.,.....		92 56
Expense of fair, &c., October, 1852,...	$399 52	
Amount of premiums paid,.....	308 00	
Cash in treasury, January 1, 1853,.....	330 96	
	$1,038 48	$1,038 48

CHAUTAUQUE.

The annual cattle show and fair of the Chautauque county Agricultural Society for 1852, was held at the village of Forestville on the 22d and 23d days of September. The show of cattle and horses, and of agricultural implements, was creditable, and will compare favorably with those of previous years. There was also a fair display of domestic manufactures, and of miscellaneous in-door articles.

The society, in 1849, purchased a canvas tent 100 feet in length by 40 in width, for the exhibition therein of miscellaneous in-door articles. The society having found the tent too small for

its convenience, have this season made it 50 feet larger, at an expense of $93.80. There was an unusually large number of persons present at the fair, especially on the second day. The receipts from the admission fee of twelve and a half cents into the exhibition room or tent, were larger than usual, and have aided materially in keeping the finances of the society in a flourishing condition.

We are gratified to be able to state that within the past few years there has been a very great improvement in all the agricultural interests of the county, and in no department of husbandry has there been a more marked improvement than in the *quality* and amount of butter and cheese made. The soil and climate of the county are peculiarly well adapted for grazing and dairying.

A very able and practical address was delivered on the second day of the fair by Hon. R. P. Marvin, of Jamestown.

The next annual fair will be held at Delanti. The officers for the ensuing year are as follows: President, Chauncey Warren; Secretary, Stukeley Ellsworth; Treasurer, Royal L. Carter, and 24 Vice Presidents.

The society offered cash premiums to the amount of $149.50, besides Transactions of the American Institute, and of the New-York State Agricultural Society. There were cash premiums awarded to the amount of $399, and eight volumes of Transactions of the American Institute and five volumes of the Transactions of the State Agricultural Society.

The amount of receipts for 1852, is as follows:

For membership and admission fee,....		$291 58
From the State,.....		143 00
Surplus of last year, ...		295 95
Of the above sum the society have paid		$730 53
in premiums awarded,.....	$363 85	
For addition to canvas tent,.....	93 80	
For rent of ground and other ex. of fair,	34 75	
		$492 40
		$238 13

J. S. PATTISON, *President.*

D. SHERMAN, *Secretary.*

CHEMUNG.

The annual exhibition of this society was held at Horse Heads, September 30, and was an occasion of no ordinary interest.

The exhibition of horses, cattle, sheep and swine, was most encouraging, and the dairy department, as well as fruits and vegetables, was well represented. The domestic manufactures was most creditable to the ladies. The show of agricultural implements was most creditable to the exhibitors, placing within the reach of the farmers, the most improved and valued implements of the present day.

The address before the society, which was delivered by the Rev. David Murdock, D.D., was a very able one and was listened to with deep interest, and was published with the proceedings of the society and extensively circulated.

After a very able discussion, in which duty of the farmers to prepare themselves to maintain their proper places at the present day, when all departments of science and art, of commerce and trade, are at the top speed of improvement, the address concludes:

"These are wide fields for discussion, and what I have said is more intended to excite investigation in the young farmer than to exhaust the subject; and also to rouse up the public spirited man to do something towards the remedying of those evils which arise from ignorance among the people! Knowledge here lies at the foundation of individual and national prosperity. It is all in vain to build railroads and cities, unless we have something to send over the one, and to feed the other. Nothing can do but the wealth of the land, increased by an intelligent population, and the highest culture of the fruit of the earth.

"And how is this intelligence to be gained? We hear of an agricultural institute to be established as a model farm by the State, where our youth may receive the proper kind of instruction; and every well wisher to the country should urge our Legislators to move in that matter, and in every other mode of education tend-

ing to exalt the condition of the farmer. But what is to be done in the mean time? Could not every district school have a class in which the largest of the scholars shall be instructed in the rudiments of that knowledge, which chiefly tells upon the agricultural interests. Let a premium be given by every county society to the scholar who has made the greatest progress in a knowledge of those sciences connected with agriculture—and let this, and similar associations employ lecturers who shall go through the most populous districts and give a course of experiments in chemistry and of instruction on other topics of practical interest; and thus a laudable ambition to improve, will be excited. So that nothing short of a thorough education will satisfy the aspiring young man, who intends to make this his profession.

"Depend upon it, till the farmer comes to regard his business as one of the professions, and determines to give his children an education equal to this, his sons will go off with the current that is now setting in far and wide, carrying the high spirited young men with it. There are the large villages rising up along the lines of our railroads—there are the great cities fed by these flowing arteries—there is the El Dorado of the south, and the stirring commerce of the wide, wide world, all tempting the young farmer to cross the line fence over which his father has never looked, where he now rests happy and contented, wondering at the fancies which can tempt his children to prefer another scene to that great spot of land. But you may wonder on and be left alone at the rate in which those changes are proceeding. Those who have been brought up to the most honorable employment in the world are found in hundreds as clerks, as boatmen and brakemen, and in many other inferior employments, while the farms are cultivated by foreigners. And it is a law proved by past history that they who cultivate the land come in time to possess it.

"Be progressive then, and give your sons an interest in the improvement. Put out your capital in enriching the soil, in beautifying your place, so that the young people around you may have nothing to envy as they look abroad. But chiefly let them have something to occupy their minds at home in this day of movement. Prosperous farmers are found ready to send their sons and daugh-

ters to schools at a distance, where they have learned the arts and fashions of city ladies and gentlemen; rendering them discontented with the duties of their station, instead of bestowing upon them an education that will make that station honorable for its intelligence and beautiful for taste, shown by the cultivators of the soil.

"And to you, farmers of Chemung county, these remarks are especially applicable. The earliest settlers are the best capable of appreciating the fact, that now the means of wealth and improvement are vastly increased. That wonderful road which passes through our county is as if a great river had suddenly broken through the forests, bearing on it the ships which convey your produce to the best market in the world. Your lands so lately new, are now equal in value to the oldest and best on the Hudson, or the sea-board; and shall you not take advantage of your improved condition to improve yourselves, to advance the next generation, so that they who come after you may know your name, by continuing on the same lands, and in the pursuit of the same profession, greatly advanced from what it was when you entered into these woods and wilds. Let it be the aim of us all wherever Providence has put us, to fill our place as men, and as women, and as citizens; and this we cannot do unless we try to leave the little world where we live, better than when we entered on it.

"That selfish spirit that sees nothing beyond the present day nor above the dollar, as a return, is unworthy of us all as rational beings, or as the citizens of this free land. We are indebted to those who preceded us here, in preparing a place for us—we are bound to pay that debt in bequeathing superior advantages to our successors; and in what way can we do this more effectually than in improving the soil.

"But live on in your disregard of all but the immediate return of cash in hand, and you will find yourselves, not unlike that man who resolves to take all he can from his land, and in as short a time as possible, without any outlay. He gets his desire the first year and he feels overjoyed; but the next season is less, and it becomes less and less until his farm is impoverished, and

he is punished. There are those who deal with society in the same way; they grasp at all and give nothing out by way of encouragement—in public spirit, in time, and in money; and at the end of a few years they have a pocket filled with dust, and a heart turned into stone.

"Nor is that all, for they teach their children to take the same advantage; and they become so apt in their lessons that they skin their own teacher, though he be their father; and could the old man who thus has lived to himself but rise from the grave, a few generations hence, he would not see one of his name or his kindred on the soil that he has wrought so earnestly; and beneath which he lies without a single pilgrim to shed a tear upon his tomb. *Selfishness*, carries with it a just retribution.

Officers for 1853. President, Charles Hulet, Elmira; Corresponding Secretary, E. C. Frost, Catharines; Recording Secretary, A. J. Wynkoop, Elmira; Treasurer, W. H. Van Duzen, Horse Heads; Vice Presidents, Samuel Minier, Big Flatts; J. B. Burritt, Catlin; Z. F. Chase, Cayuta; W. T. Jackson, Catharines; R. C. Wilson, Chemung; Lewis Sandford, Dix; J. B. Moore, Erin; Lewis Miller, Southport; Augustus Latin, Veteran.

CHENANGO.

The annual fair of the Chenango county Agricultural Society was held at Norwich on the 29th and 30th days of September, and was numerously attended, and the exhibition as a whole was fully equal to any previous fair held in this county.

At the annual meeting of the Society in January, 1852, the constitution was so amended that the executive committee could locate the annual fair for a term of years at one place; at a meeting of the executive committee on the first Tuesday of June last, they located the fair at Norwich for four years, and appointed a committee of three persons to procure and lease a piece of ground for that purpose.

The said committee obtained and leased five acres of ground near the center of the village, for the sum of twenty-five dollars per annum, and enclosed it with a tight board fence, eight feet high, and erected a building within the enclosure forty by sixty feet, for the exhibition of dairy products, mechanical implements, domestic manufactures, &c.

The annual meeting was held at Norwich on the fourth instant, when premiums on field crops were awarded. Statements with proper certificates as to measurement of ground, previous crops, &c., together with samples, were presented.

Officers for 1853. George Juliand, of Greene, President, with seven Vice Presidents; Jonathan Wells, of Norwich, Corresponding Secretary and Treasurer, and twenty Managers, one from each town, the whole constituting the executive committee.

CALVIN COLE.

Oxford, January 7th, 1853.

B. P. JOHNSON, ESQ., *Sec., &c.:*

In answer to the inquiries in the circular you addressed to me in the early part of October last, I have sought for the best information within my reach, and the result is as follows:

First. The chief products of our county are butter and cheese.

Second. In consequence of the unusually dry season the past summer, there is but a small increase in butter from last year, while in cheese there has been a decrease.

Third. The estimated number of acres devoted to the production of butter and cheese in this county is 150,000, and the quantity of butter produced for market is about 3,500,000 pounds, and the quality ranks high among the first in the State. The quantity of cheese is about 1,500,000 pounds, and the quality will compare favorably with any other in the State.

Fourth. The other important productions of the county are neat cattle, sheep and wool, horses, swine, corn, oats, potatoes,

&c. Of neat cattle, the average number may be stated at 65,000. Of sheep, the average number for the last few years will not vary much from 150,000, and the quantity of wool produced about 340,000 pounds.

The average number of horses is estimated at 11,000. In swine there is probably an increase from year to year; the number is estimated at 30,000. The corn crop is better this year than the preceding one, and is estimated at 250,000 bushels. The average quantity of oats is probably more uniform, and is estimated at 600,000 bushels.

Fifth. The increase or decrease of acres under tillage. The amount of lands under tillage has varied but little for the last few years, and is estimated at 60,000 acres.

Sixth. The increase in cows has been considerable in past years, while other neat cattle have varied but little. There has also been an increase in horses and swine, while in sheep there has been a very considerable decrease. The most common breeds of neat cattle are the natives and cross breeds with Durhams and Devons. Among a large portion of our farmers the natives are considered the best for the dairy and for market, while a considerable portion prefer the cross, some of Devons and some of Durhams, for both the dairy and market.

Seventh. But little scientific attention is applied to farm cultivation, although the subject begins to excite attention.

Eighth. Drainage has received some notice, and its results have been satisfactory.

Ninth. Lands and farms have steadily increased in value for the last few years.

Tenth. The produce of this county finds a ready market upon the line of the Chenango canal, which passes through a central portion of the county. From the southern portion of the county

much produce is carried to market upon the New-York and Erie railroad.

The expense of conveying the products of the county is estimated at one per cent on the value thereof.

CALVIN COLE,
Pres. Chen. Co. Ag. So.

Oxford, January 1st, 1853.

CLINTON.

TO THE EXECUTIVE COMMITTEE OF THE N. Y. STATE AG. SOCIETY:

Gentlemen: Below I hand you an "abstract of the proceedings" of the Clinton county Agricultural Society for the year 1852, together with the "*statements*" received from successful competitors.

At the annual meeting of the society, which was held at Plattsburgh on the 6th of January, the officers were elected for the year 1852, and the usual business transacted.

On the 10th of February the executive committee met and agreed upon a list of premiums to be offered for the year 1852, amounting in the aggregate to $678 in cash, and twenty-nine diplomas.

At an early day the premiums were published in a *pamphlet*, containing also the address of the President before the annual meeting of the society, a copy of which is herewith forwarded.

The annual fair of the society was held at the show grounds in Keeseville, on the 22d, 23d and 24th days of September.

The first day was occupied in the making of entries, and the reception and arrangement of articles for exhibition.

The second day was devoted to examination by the judges. During this and the following day the grounds were open to the public. The number of visitors in attendance was not so great

as last year, though considering the unusual attractions at a neighboring "race course," which were continued during the whole of the two days, the attendance at the fair grounds was fully equal to any reasonable expectations. The location of a *race course* in the immediate vicinity of our fair grounds, is an exceedingly unfortunate circumstance. Aside from its deleterious influence on the public morals, its effect upon the interests of the Agricultural society has been found decidedly injurious.

The proprietors of the race grounds, and others interested in it, will not permit so favorable an occasion as that of an agricultural fair to pass unimproved; and every year, after the handbills of the fair are posted, and after it is too late for the time of holding it to be changed, or for the Agricultural society to disabuse the public mind of the impression that *it* is connected with and interested in the success of the "races," flaming bills announcing them as appointed to come off "IN CONNECTION WITH THE FAIR," are distributed. The effect is that a large and influential portion of the farmers and citizens of this county, embracing all those who disapprove of *public horse racing*, on account of its immoral tendencies, and who are not advised of the true state of the facts, either stay away, or come only to attend as idle spectators.

It is not to be denied, that while many who would otherwise take a conspicuous part in the celebration of our fairs, are thus restrained by motives of principle from participating in them, others of an opposite character may be drawn together in greater numbers, a circumstance which has been urged as an argument in favor of the races; but three or four years' experience has failed to prove to us the justness of the claim. Few persons who have so little regard for the legitimate objects and purposes of an agricultural fair, that the attractions of a public race become necessary as a bait to allure them to the neighborhood, are likely either to be much benefited themselves, or to benefit others, by their attendance. On the contrary, we have found that for every visitor who has been drawn *to* any of our fairs by means of the

race course, several times that number, of the honest yeomanry of our county, who at any other time would have resisted the temptation, have been drawn *from* it. So great, indeed, has been the draught in this direction, that the operations of the Society have often been seriously embarrassed. In more than one instance during the fair of this year, the officers of the society were compelled to suspend operations, until the return from the "races" of a sufficient amount of working material to enable them to proceed with business. These remarks are not made in a spirit of fault finding, but simply as an act of justice to the society which I have the honor to represent, and as a warning to other societies which have not yet had the same experience.

On the forenoon of the third and last day of the fair, the society was very ably and eloquently addressed by the Hon. B. P. Johnson, of Albany, the indefatigable Secretary of the State Agricultural Society. The discourse was one of rare ability, eminently practical, and most opportunely adapted to the wants and condition of those to whom it was addressed.

The afternoon was devoted to the declaration of the awards, a formal display of the animals which had received the prizes, and a public sale of stock, implements, &c. Owing to various causes, chiefly of a local or a transient character, among which the increased attractions at the race course may be named as one, and the extraordinary drought of the past summer as another, the exhibition was in some particulars inferior to that of the preceding year. The display of dairy products and of manufactured articles of nearly all kinds, was quite meager. The show of horses, good; of cattle, sheep and swine, fair, but not equal to last year. The exhibition in floral hall, including fruits, flowers and vegetables, was fully equal to any which the society has yet made.

The *premiums* awarded at the *fair* amounted to $219 in cash, and 11 diplomas. Of this amount $52, and 3 diplomas, were awarded on cattle; $15, and 4 diplomas, on horses; $9, and 3

diplomas, on sheep; $19, on swine; $6, on poultry; $15, on the products of the dairy; $3, on sugar and honey; $6, on bread; $9, on fruit; $13, and one diploma, on plants and flowers; $12 on vegetables, $11, on domestic manufactures; $12, on miscellaneous manufactures; and $7, on farm implements.

At the Annual meeting of the executive committee, held at Plattsburgh, November 30th 1852, the further sum of $11, was awarded on Crops, as follows:

To Calvin Everest, of Peru, for the best acre of potatoes, the 1st premium. Yield 567 bushels.

Value of crop, at 2 shillings per bushel,.....	$141 75
Total cost of crop, including seed, labor, manure, use of land and taxes,.....	56 89
Net profits,.....	$84 86

To Silas M. Taylor, of Schuyler Falls, for the 2d best acre of potates, the second premium. Yield, 302 bushels.

Value of crop, at 2 shillings per bushel,.....	$75 50
Total cost of crop, including seed, labor, use of land and taxes,.....	25 50
Net profits,.....	$50 00

To Silas M. Taylor, of Schuyler Falls, for the best acre of oats, the 1st premium. Yield, 73 1/2 bushels.

Value of crop, at 40 cts. per bushels for the grain, and $8 for the straw, ...	$37 43
Total cost of crop, including seed, labor, use of land and taxes, ...	10 00
Net profits,.....	$27 43

Mr. Everest's Statement.

Soil, gravel; previous crop corn, well manured; forty loads of barn yard manure applied this season, and turned under, land plowed very deep, amount of seed 12 bushels, of the "peach-blow," or "Moore" variety, and assorted, using only tubers of

good table size, each tuber cut into four pieces or sets, and four of the sets planted in a hill. The rows 3 feet apart; and the hills 2 feet 4 inches asunder in the rows; the sets distributed in the hills so as to be 6 inches asunder; planting done on the 10th and 11th days of May; hoed twice; dug in the month of October.

Expenses of cultivation, &c.

Plowing and harrowing,.	$2 00
12 bushe s seed at 4 shillings,.....	6 00
Cutting seed,.....	38
Planting,.....	1 00
Plowing between rows,..	1 00
Hoeing twice,.....	2 50
Harvesting done for 3 cents per bushel,.....	17 00
Manure, 40 loads, at 4 shillings,.....	20 00
Use of land and taxes,...	7 00
Total,.....	$56 89
Amount of crop, 567 bushels,	
Value, at 2 shillings per bushel,.....	141 75
Balance in favor of crop, ...	$84 86

MR. TAYLOR'S STATEMENT.—POTATOES.

Soil, gravelly loam. Had been in pasture since the time of "clearing," perhaps 25 years; plowed first of May, harrowed once; planted 10th of May, in rows, 3 feet 3 inches apart each way. Seed 12 bushels; variety, pink eyes and English whites; applied a light top dressing of ashes and plaster, as soon as the plants were out of the ground; cultivated each way once; hoed once; harvested the second week in October.

Expense of cultivation &c. including seed, fertilizers, use of land, and taxes,.....	$25 50
Amount of crop, 302 bushels, of 60 lbs.	
Value of crop at 25 cts. per bushel, ...	75 50
Balance in favor of crop,.....	$50 00

Mr. Taylor's Statement.—Oats.

Soil, gravelly loam; previous crop potatoes, with 15 loads barn yard manure applied to the acre. Plowed for the present crop, once; sowed the middle of May; seed 3 bushels, of the "horse-mane," variety; harvested 1st of September, and thrashed in November.

Expense of cultivation, &c., including seed at 4 shillings, per bushel, use of land and taxes,.....		$10 00
Amount of crop, 73 bushels:		
Value of grain, at 40 cts. per bushel,..	29 43	
Straw, estimated at,.....	8 00	
	——	37 43
Balance in favor of crop,.....		$27 43

Receipts and Expenditures of Society.

Balance in treasury last year,.....	$64 63
Amount received from the State,...	84 00
Receipts from all other sources,.....	622 86
	$771 49
Paid out premiums and expenses,.....	763 49
In treasury.....	8 00
	$771 49

All of which is respectively submitted,

J. BATTEY, *President.*

Officers for 1853.—Richard Keese, President, Keeseville; E. Harding, Secretary, Keeseville; Peter Keese, Treasurer, Ausable.

EXTRACTS FROM THE ADDRESS OF JONATHAN BATTEY, PRESIDENT.

Improvements effected by the labor and influence of the Society.

"That changes more or less important have taken place in the mode of cultivating the soil, in the rearing and management of stock, and in various other departments of agricultural practice, must I think be apparent to all. But before we can be prepared correctly to estimate, wherein and to what extent improvement has been effected; and how we, by our organization, have contributed to such improvement, it may be neccessary that we should revert for a moment, to the state of agriculture as it existed here prior to the organization of the Society, and compare it with the state in which it exists at the present time.

Deep Plowing.

"Of the numerous points in our husbandry in which improvement may be claimed, none perhaps exhibits better evidence in support of its claim, than *depth of tillage*. Ten years ago, the average depth of plowing in this county, was not probably more than *five inches*; whereas now it may be safely stated at *seven inches* or more. Whether or not this constitutes an improvement, your own experience and observation will enable you to determine.

Manner of Seeding.

"Ten years ago, our farmers ordinarily sowed of spring wheat, only one to one and a fourth bushels of seed to the acre; and of oats, but one and a half to two bushels. Now, the average rate of seeding does not probably fall much below two bushels of wheat, and three of oats to the acre; and there has been a corresponding increase in the average amount of the yield, of probably not less than four bushels of the former, and ten bushels of the latter per acre; and a similar remark will apply to most other grain crops. At that time also, most farmers here allowed their crops of grain, of every kind, to stand till fully ripe, and many till the kernel was dry enough to grind, before the grain was cut.

Cutting Grain before fully ripe.

"Now, the advantage of cutting it while the straw is yet partially green, appears to be universally understood, and very generally practiced. Then the hilling of corn, at the last hoeing, a practice by which the roots were buried in a position unnaturally remote from the genial influence of the sun, and by which the water falling in rain, and intended for the benefit of the growing plant, was turned off into the furrows, and sent to swell the amount in some neighboring stream, was nearly universal: now it is nearly obsolete. A change scarcely less important and no less general, has taken place in the mode of harvesting this crop. In the old fashioned mode, at that time chiefly practiced, the '*tops*' were 'cut' and cured, the ears, after having become 'dead ripe,' plucked and saved, and the residue of the plant left standing where it grew. By the adoption of the more economical mode of cutting up at the root, while the stalk is yet green, a better quality of grain is secured, and a saving of fodder effected, at least equal in value to a crop of hay on the same ground.

Improvement in quality of Plants.

"In the variety and quality of the plants we cultivate, there has also been, in almost every department, very decided improvement. For example, the general introduction of a single variety of potato, the "Moore" potato of this region, or "Peach-blow" of New-England, has gained for the potatoes of Clinton county, a reputation in the Boston and New-York markets, which insures the ready sale of all which our farmers can raise, at the very highest prices. It has been estimated that the sum of not less than half a million dollars has been received by the farmers of this county, for the single article of potatoes within the past three years, a result, unquestionably, in great measure at least, of the dissemination of this improved variety.

Improved Fruits.

"In the department of fruits, there has also been a very striking advance. The liberal premiums which, from time to time, have been offered by this Society, to promote the exhibition of fruit at our fairs, the planting of orchards, the nursery propagation of

trees, and the production of Essays on Fruit Culture, have awakened, throughout the county, a taste for planting, which amounts well nigh to enthusiasm. During the years 1850 and '51, there were probably planted out in orchards in this county, not less than 20,000 apples trees, of the choicest engrafted varieties; and in gardens as many as 2,000 pear trees and an equal number of other kinds of fruit trees; and still the operation of planting appears to have but just commenced. All this, be it remembered, is so much added to the *productive capital* of the county. If this planting should continue, as there is every reason to believe it will, increasing in the same ratio as during the past two years, for the next ten, the whole number of trees thus planted out, will then exceed half a million; or even if it should only continue at the present rate for that term of years, the number would still amount to more than a quarter of a million of trees!

"Of the immense advantages likely to accrue to the county from this one branch of our agriculture, which may, not inaptly, be styled a new creation of this society, rather than an improvement, few as yet have probably any adequate conception. The product of half a million trees, in full bearing, may be estimated at two and a half millions of bushels annually, and still leave a wide margin for failures, from the vicissitudes of seasons, insects, and disease. Of this amount, after allowing to the farmers of the county, for use in the family and upon the farm, half a million of bushels, or about 250 bushels to each family, a balance would be left *for sale*, of two million bushels! And this quantity, at 2 shillings pr. bushel, half the price of good grafted apples now a days, would amount to the nice little sum of half a million dollars! which exceeds the aggregate annual amount of sales for any one crop, or for any two crops, now raised in the county.

Improvement in Fertilizers.

"Thus, in nearly every department of our husbandry, has improvement been going on. It was not until within the last few years, that the compost heap was ever seen, or the use of gypsum as an absorbent introduced, or the value of peat or swamp muck known. Why gentlemen, ten years ago the farmers of this county, generally, no more thought of the *manufacture* of manure as one

of the regular annual processes of farming, than they now do of engaging in the manufacture of the air they breath. The prevailing notion seemed to be, that only *animal stock* could render any aid in the process of making manure; and that only those productions of the soil which had been obtained by the sweat and toil of man, as grain, hay or roots, could be made of any use in that process! that all the part the farmer could take in the manufacture of manure was the feeding and care of his stock, and that when it left the laboratory of his animal chemists, it was not only complete, but indestructible, absolutely out of the reach of any of the ordinary agents of decomposition, decay or waste! But how is it now? Let your own experience answer. Which of you, gentlemen, has not come to regard, practically I mean, weeds and all forms of vegetable rubbish, as well as the suds and slops from the kitchen, worth adding to the manure heap? And which of you that has it on his farm, or within his reach, fails of supplying his barnyards every autumn, with a quantity of muck, to absorb the liquid portion of the manure, which would else leach away and be lost? And which of you would not about as soon run the gauntlet, as be seen hauling manure from his yards and spreading it out upon his fields in autumn, there to leach and whiten, and waste its volatile parts by evaporation, during five or six long wintry months, preparatory to a crop the next season?

Improvement of Stock and Implements.

"Improvements no less conspicuous and important, have been going on, in the character of our stock, in the number, variety and perfection of our labor-saving inplements, in the improved condition and general appearance of our farms, in the convenience and air of neatness and comfort, in the barns, out-houses and dwellings of the farmer, which are every where springing up.

"But I need not stop to expatiate on the evidences of improvement. No one with his eyes open, and in his right mind, can fail to see it, in whatever direction he may look. And *he* must be a stout unbeliever in the moral power of *association*, who can for a moment hesitate about giving to the agency of this society some share at least of the credit of producing these results.

COLUMBIA.

The executive committee of the Columbia county Agricultural Society met in the city of Hudson on the 11th day of June, 1852, and made out a list of premiums to be awarded at the coming fair, to be held on September 29th and 30th.

The annual meeting of the society was held September 7th, 1852, when the following officers were elected, viz:

Elisha W. Bushnell, of Hillsdale, President; Daniel S. Curtiss, Charles W. Hull, William E. Hermance, John D. Langdon, Vice Presidents; F. A. Gifford, Secretary; Jacob N. Harder, Treasurer, and an executive committee of one from each town.

The annual fair and cattle show of the Columbia county Agricultural Society was held at Chatham Four Corners on the 29th and 30th days of September. Our agricultural friends came in from all parts of the county, and seemed to feel very much interested; and were we to judge of the prosperity of our society by the numbers present on the occasion, we should say it was very flattering.

The plowing match was held on the first day of the fair. There were seven teams and plowmen presented themselves as competitors for the premiums. The plowing came off with a good deal of spirit and good feeling. The plowing was very well done, considertng the dryness of the grounds. The second day was devoted exclusively to the exhibition and examination of animals and articles offered for premiums, which was very extensive. The exhibition was one of the best ever held in this county. There was a large display of animals, and many were of superior excellence. The show of farm implements and other articles in the mechanical department was very extensive and attracted much attention.

The annual address was delivered by Mr. Solon Robinson, of New-York, to a vast assemblage of the citizens of Columbia county.

In the ladies' department there was a very rich display, and such as to have secured the admiration of the multitude in atten-

dance. The show of fruit, flowers and vegetables was extensive, and very fine indeed. The fair was one of which old Columbia may well be proud. It was in truth a jubilee to the farmers of the county. The premiums were awarded to the successful competitors on the first day of October, the third day of the fair.

It is evident from the immense number of people at our fair, as well as from the great variety of articles on exhibition, that an increased interest is felt in the prosperity of the society, and its prospects of usefulness were never more flattering than at present.

Columbia county has done nobly. Taking into consideration the backwardness of the season, and the almost unprecedented drouth of the whole summer, it is surprising to see to what size and perfection fruits and vegetables have been brought in this vicinity. The show of grapes, apples, pears, peaches, plums, vegetables and flowers, has never been equalled in this county.

We talked with several gentlemen at Chatham Four Corners, who were present at the State Fair, lately held at Utica, and they all said that only in quantity, not in quality, did it excel our county fair. In fact, the speaker, Mr. R., paid us the compliment, in saying that he had attended a great many fairs in his time, but he had never beheld as nice a string of 10 yoke of oxen as he saw at this fair. There was one yoke of three year old steers on the ground entered by Mr. Pratt, which he said were the best he ever saw in his life; they were, in fact, the admiration of all.

The volumes of Transactions of the State Society and American Institute, furnished the society, have also been distributed as premiums, and are very much sought after by the farming part of the community.

The financial condition of the society is as follows:

Received from members of the society,.....	$236 00
Received balance on hand at last report,.....	92 00
Carried forward, ...	328 00

Brought forward,		328 00
Received from State Treasurer,		133 00
		$461 00
Paid out for premiums, Oct. 1st,	345 00	
Incidental expenses,	12 50	
		$357 50
Leaving a balance of		$103 50

ELISHA W. BUSHNELL, *President.*

CORTLAND.

The fourteenth annual fair of the society was held at Cortland Village on the 15th and 16th September. Never since the organization of the society has there been so deep an interest shown as upon this occasion. The out-door arrangements were in fine order, and the display of animals good. Extensive sheds had been erected, and were filled to overflowing with mechanical products of various kinds. The Messrs. Freers had a large and commodious one of their own, where the housewife or the agriculturist might have procured any article their necessity or fancy should have prompted, while Mr. Sanders, and others, also made fine displays of their manufactured articles.

Floral hall was more neatly fitted up than on any former occasion, and far more attractive, as shown by the amount received, (being double that of last year). The floral exhibition was unusually fine, and did much credit to the exhibitors. The display of fruits and vegetables was unusually great and very fine, and the potato, which for some years past has been so poor in quality and short in product, is this year very fine, and a good crop.

On the second day the plowing match was contested with much spirit by numerous competitors, and the work performed by them "hard be to beat." Immediately after the plowing match the society partook of a dinner prepared for them at the "Eagle Tavern," after which they repaired to the Presbyterian church, where an address was delivered.

The receipts of the society during the past year have been as follows:

Cash on hand date of last report,.....		$183 37
" Floral hall,.....		205 00
" Membership and other sources,.....		165 00
State appropriation,.....		75 00
		$628 37
Cash paid for premiums,.....	$291 00	
" " papers,.....	20 00	
" " incidental expenses,.....	25 00	
Cash balance on hand,.....	292 37	
		$628 37

Officers for 1853. At the annual meeting held December 23, the following officers were elected: President, Paris Barber; Vice Presidents, Moses Kinne, Josiah W. Rood, Lyman Hubbard, Manley Hobart; Treasurer, M. L. Webb; Secretary, Erasmus Bowen; Corresponding Secretary, Amos Hobart; Marshals, Oliver Glover, Ira Bowen, A. L. Chamberlain; Superintendent Floral hall, Wm. L. Sherman; Executive committee, Israel Boies, Geo. J. J. Barber, Amos Rice, Noah Hitchcock, Jr., Hiram Hopkins, Anthony Freer, Joshua Ballard, 2d, Hamilton Putnam, Peter Walrad, Francis H. Hibbard, Hammel Thompson.

ANTHONY FREER, *President.*

DELAWARE.

The annual fair and cattle show of the Society was held in Delhi on the 6th and 7th days of October, and was more numerously attended than any previous festival of the association. The fair of the society for the past three years has been held in the town or village paying the largest sum into the treasury, and so far as our own experience is a guide, is a very satisfactory and proper arrangement. The officers of the Society, by this plan of locating the annual fair, are relieved from an embarassing responsibility, while the members and patrons of the society are en-

abled to express their preference for a favorite locality, at the same time that they entitle themselves to the privileges attendant upon membership. Since the society has adopted this manner of settling the location of its fair, it has been enabled to extend its premium list, to increase the value and variety of its premiums, to provide increased conveniences for the comfort of exhibitors and the public, and thereby to make the occasion one of real interest and importance. The number of persons in attendance upon our last fair is believed to be greater than was ever called out before, on any occasion, in this county. The enclosure of our exhibition grounds, and the collection of an admission fee from persons not members of the society, is another new, and we believe satisfactory feature of the present policy of the society. We find very few persons unwilling to pay a shilling into our treasury for their admission into our grounds, while we are enabled to shut out the few persons whose intemperance and kindred vices make them unpleasant companions on public occasions Our enclosures are also safe deposits for animals or articles on exhibition.

Delaware county, as a grazing region, is in no particular behind the most favored locality, and its butter competes successfully in our markets with the renowned "Goshen;" and yet we are mortified to record that the show of our staple product was meager indeed. Very many of our dairies, delivered at tide water, have brought 30 cents per lb. this season, and yet a stranger in attendance upon our fair would hardly have *guessed*, from any thing he saw there, that we deserved, or were proud of the reputation of our dairy products. The exhibition of cattle was good. Henry Dowie, Esq., of Andes, exhibited a superior Durham bull, out of "Marius." S. A. & J. A. Law, of Meredith, exhibited their Devon bull "Cogniac," and the show of pure bred and grade cattle was admitted to be the best ever made in the county. Some good pairs of working oxen were on exhibition, but as a whole this feature of the exhibition was not what it *might* and *should* have been in a county where good ox teams are so numerous as in this. The exhibition of horses was numerous, and the animals such as are suited to our wants, rather than to the fancy of sporting men. Many of them were really beautiful animals. Sheep

of a superior quality, of various breeds, were on exhibition. A. R. Dutton, of Meredith, exhibited a beautiful French Merino buck, bred by Francis Rotch, Esq., of Morris, Otsego Co., from which he had taken in June previous, more than 20 lbs. of wool, the growth of one year. Messrs. Thomas, of Stamford, and Wilcox, of Harpersfield, exhibited superior Saxons. Messrs. Laws, of Meredith, and Dart, of Harpersfield, superior Merinos. Messrs. Mable, of Delhi, beautiful South-downs, and the show of "long wools" was a meritorious one. The ladies gave great interest to our fair, by an extensive and rich exhibition of their handiwork.

The annual address was delivered by the President on the second day of the fair, and was listened to with attention.

The officers of the Delaware county Agricultural Society take pleasure in reporting the prosperous condition of the society, and their conviction that with prudent management on the part of its officers, it will soon find fast friends in all, as it does now in so large a number of the farmers of the county.

Our account for the past year is as follows:

Received from membership, &c., ...	$430 70	
" " the State, ...	106 00	
		$536 70
Paid premiums and expenses, ...		448 50
Leaving balance in treasury, ...		$88 30

Officers for 1853 Samuel A. Law, Meredith, President; Martin Keeler, Jr., Kortright, N. M. Blish, Stamford, Alex. Mable, Delhi, Hiram Olmstead, Walton, Henry Dowie, Andes, Geo. D. Wheeler, Deposit, Silas White, Franklin, Vice Presidents; Alred Redfield, Delhi, Secretary; M. L. Farrington, Delhi, Treasurer.

S. A. LAW, *President.*

Meredith, N. Y., Dec. 20th, 1852.

DUTCHESS.

TO THE SECRETARY OF THE STATE AGRICULTURAL SOCIETY:

Dear Sir:—Again duty requires me to report to you the condition of the Dutchess county Agricultural Society, and I am happy to have it in my power to change the old stereotyped report of former years, by chronicling the evidences of a bona fide and substantial improvement in the affairs of our society. Since my last report the society has been enabled, through the liberality of our citizens, and the indefatigable exertions of a few zealous friends of agriculture, to enclose for the use of the society, with a close board fence, eight feet high, about six acres of ground at Washington Hollow, as nearly in the center of the county as it was possible to have made the location. Of this ground the society have a perpetual lease so long as it is occupied by it for agricultural purposes. Within this enclosure has been erected a building fifty by eighty feet, for the purpose of exhibiting fruits, flowers, vegetables, and articles of useful and ornamental manufactures, and near the entrance to the show ground a business office for the accommodation of the executive committee, &c., the whole got up with simplicity, economy and excellent taste. These structures are, of course, designed to be permanent as they were built by the society at an expenee of about $2,200, and are mostly paid for. The success of the enterprise infinitely surpassed the liveliest anticipations of the most sanguine among us, having realized that substantial patronage from the public, which, besides paying the premium list of over three hundred dollars, paid also at our first exhibition six-sevenths of our whole debt.

With such encouragement we entertain no apprehensions but what we can pay the entire debt another year, and at least double our cash premium list. Indeed we find that we have a nucleus now formed, around which the affairs of the society are as certainly destined to center and improve, as will those of a thrifty farmer around the substantial reality of a happy fire-side. The Dutchess county Agricultural Society is no longer a mere name; it is an absolute fact that has form and being, with a visible, tangible existence, having a "local habitation" and a fair prospect of being able hereafter to offer such inducements as will be

sufficiently attractive to render the utmost advantages to the farming interest of Dutchess county, instead of being obliged, as heretofore, to advertise a beggarly premium list, of which every member of the society was ashamed, and which offered no incentives to competition or improvement. It must not be supposed that this consummation has been effected without some exertion on the part of those who have been entrusted with the interests of the society. Indeed when it is known that not one farthing is paid to a single officer of the society, all of whom "work for nothing and find themselves," it is pretty good evidence that the spirit of enterprise is not entirely dormant in old Dutchess. When it is also known that these structures have not been put up by the citizens of any populous city or village in the expectation of reaping cent per cent upon the investment, some of the difficulties can be realised, and the spirit of that enterprise properly appreciated.

Another evidence of improvement, which is by no means of small importance to county societies, and to which may be attributed much of our success, is the observance of more order and system in the business arrangements of the society, which has been rendered partially necessary from the increased amount of business done by the society; and as a consequence, the labor has been diminished, and much better satisfaction given the public; and though there is yet much room for improvement in this respect, we feel that we have been so much benefited by our short experience, that it is a duty to recommend its adoption to those of our sister societies, if there are any who have not yet tried it.

The annual fair and cattle show was held on the show ground of the society at Washington Hollow, on the 5th and 6th days of October, 1852; and although the fairs of the societies in the neighboring counties were held during the same week, which considerably interfered, the attendance was so large, that the accommodations, large and commodious as they were, were found inadequate to the advantageous display of all the articles, and afford sufficient room for the throngs of visitors in Floral hall. The exhibition in the hall was certainly very creditable to the farmers of the county; the vegetables, grains, fruit and flowers were not

only numerous, but of excellent quality. The display of useful and ornamental manufactured articles was very fine; of agricultural implements very poor. Of neat cattle and breeding stock, there was a fair representation of Short-horns, and native and cross-blood cattle, but not a specimen of Devons, Herefords, or Ayrshires, (although there are some good ones in the county,) was on exhibition. The show of horses was good, and of sheep the exhibition was very superior, as you will observe by reference to the reports of committees transmitted with this report. Of swine the display was inferior, but the poultry department evinces a very decided improvement. Owing, probably, to the drouth of the past summer, there were very few fat cattle on exhibition, and what were, deserved but little praise.

The attendance at the December meeting was small, and applications for premiums on field crops limited. Upon an examination of the accounts of the society, it appears that there has been received by the treasurer, from fair and for memberships, during this year, and other sources,..... $1,092 46
By building committee, on subscription to building fund,..... 1,169 35

Total amount received by society,..... $2,261 81
Bills paid by the society,..... $2,182 14

Cash on hand,..... $79 67
Due and uncollected on subscription to building fund, 190 50

Available fund,..... $270 17
Amount of indebtedness of the building committee,.. 497 46

Deduct available fund, leaves of debt,..... $227 29

The old board of officers was re-elected, viz: E. Haxtun, of Beekman, President; Barclay Haviland, of Washington, Treasurer; and Samuel T. Taber, of Chestnut Ridge, Secretary.

Report of Committee on Long Wooled Sheep.

The committee respectfully report that they have carefully and with much interest examined the long wooled sheep in the show yard, and do not hesitate to say that they were superior both in

numbers and quality to those exhibited at any previous exhibition, and further that one of our number had the honor of serving as one of the judges on long wooled sheep at the recent fair of the State Society at Utica, and he stakes his reputation, so far as to say that our exhibition of long wools is not inferior to that. There were many of them so nearly equal that it required the strictest scrutiny to decide upon their respective merits; but having the duty to perform we acted according to the best of our judgment, regardless of any consequences, other than those which follow the consciousness of having endeavored to do justice to the competitors.

Your committee further report that they find themselves restricted, by the rules of the society, from awarding premiums to many which were really meritorious animals. There were several pens of yearling ewes (very fine) which your committee consider highly worthy of commendation, and the spirited breeders of such animals are deserving the praise and encouragement of every farmer of Dutchess county. May success attend their efforts.

ISAAC E. HAVILAND,
STEPHEN HAIGHT, } *Committee.*
AMOS B. KNAPP,

REPORT OF THE COMMITTEE ON FRUITS.

Apples.—The exhibition of apples was quite extensive, and it indicates an increasing degree of attention to the cultivation of this pleasant and almost indispensable kind of fruit While the committee was pleased to observe in the collection specimens of the most recent and favorite kinds, they cannot avoid expressing the hope that their pomological friends will not neglect the old varieties, whose excellent qualities should ensure them a prominent place in every orchard They regret that, in many instances, sufficient care was not observed by the contributors to label each variety with its proper name. Without this precaution, one of the great objects of the society will be frustrated. For it is not enough that there should be a mere exhibition of fruit in mass. It is desirable to know the effects of soil, latitude, and exposure, in modifying the properties of each kind. It is also important that the identity of each variety should be pre-

served, by having the same name to the same apple, throughout the whole country. Precision of name constitutes a leading consideration in the selection of good fruit. The committee awards the first premium for the best, not less than ten varieties, Daniel Sands, who exhibited 21 varieties; and the second premium to John Comstock. The latter indefatigable pomologist had a collection of 40 varieties, which far exceeded that of any other contributor; but his specimens were not as fair as those of Mr. Sands; best not less than five varieties, is awarded to S. Haight. Second best to G. Snyder.

Many beautiful specimens were deposited by others, but the committee cannot notice one without mentioning all. They return the obligations of the society to Messrs. DeForest for 12 varieties; Gerow, for 21; Story, for 36; Griffin, for 23; Welling, for 28; J. & E. Haviland, for 21; Thorn & Ferguson, for 10; Doct. Smith, for 10; a very handsome collection had no label to designate the depositor.

Pears.—The committee feels peculiar pleasure in referring to this delightful family of fruits. They well remember the meager and almost worthless display of pears which was made less than ten years ago, in the exhibition of the society. Nearly all, of any value, were then sent by a few amateur cultivators; but now every farmer who feels an enterprising spirit, looks upon a good fruit yard as an indispensable appendage to his farm. It constitutes, in fact, the evidence of an industrious, intelligent and thrifty homestead. Show us a farm without good fruit trees, and we will show you an occupant who is either dissipated, ignorant and lazy, or who is encased among the "old fogies," of agriculture, who can appreciate nothing beyond beans, pork and tobacco.

Dutchess county has never had such a splendid variety of pears on exhibition, as this season has produced. But with them, as with apples, the kinds are so numerous that much time must necessarily elapse before a selection can be made of first rate pears, which are adapted to our soil and climate. The great object in selecting an orchard is not to obtain a great variety, but a regular succession of the best varieties of fruit.

John Comstock had the greatest variety of pears, in number 25; from these nine were selected as first rate. Dr. Gibbons, of Poughkeepsie, had 20 varieties, from which 9 were selected as first rate; and the latter having the fairest specimens, the committee awarded to him the first premium, and to J. Comstock the second. Dr. Smith exhibited 21 varieties, of which eight were first rate; the first premium for the second best variety. Thomas Taber exhibited 20 varieties, of which 8 were first rate; second premium. Messrs. Gerow exhibited 10 varieties; J. & E. Haviland 18; DeForest 5; Beckwith, 10; Snyder 7; Arnold 8; Peters 8; Vail 2; Sackett and some others, not labelled. A superb specimen of the Dutchess D'Angouleme pear was exhibited by Mrs. Snyder of Mabbettsville, which weighed 14 ozs. Some fine pears were presented by Mr. Flint.

BEEKMAN, *December* 20, 1853.

Mr. B. P. JOHNSON, *Secretary, &c.:*

Dear Sir:—Your circular of the 6th of October was duly received, but I deferred answering it until I could have an opportunity of consulting with the officers of our agricultural society, and other intelligent men of the county, for the purpose of obtaining what information I could on the various questions propounded—one of which I think can be more readily answered by referring to the statistics of the State.

1. Wheat, rye, corn, oats, beef and pork, a small amount of wool grown, a limited amount of pork, large amount of beef, and for the last two years a large amount of milk.

2. There has been a large increase the present year in the amount of corn grown. Crop of hay very deficient; amount of wool and pork much less than formerly. There has been a very great increase in the quantity of milk.

5. There is a very moderate increase in the number of acres under cultivation.

6. There has been a gradual increase in the number of neat cattle, although at present there is not more than two-thirds the usual number in the county, owing to the unusually short crop of hay; a large decrease in the number of sheep kept. The native and cross with Durham are the most common breeds of cattle; a few thorough bred; of sheep we have the Bakewell, Leicester, South-down, Saxon, Merino and Native. The most approved breeds are the long and middle wool, comprising the Bakewell, Leicester and South-down.

7. Scientific attention to farming is on the increase.

8. Drainage has received some attention, and so far as tried, is considered profitable.

9. Farming lands for the last few years have not been saleable even at reduced prices. The present appearances indicate a little better state of feeling, and sales are more easily effected.

The products are generally sold in the city of New-York. The expense of producing and marketing probably equal to fifty per cent of the value thereof.

To No. 4 I am unable to give much if any information. There is a considerable quantity of potatoes and some barley produced, but I have no data whereby I can give the average quantity of either. The other questions are answered according to my best information; and if of any service to the society or the community at large, I shall be fully compensated for the little time I have occupied in doing so.

Respectfully yours,

E. HAXTUN.

ERIE.

The eleventh annual fair and cattle show of this county was held at East Hamburg on the 29th and 30th days of September; and, if we cannot say it was the best ever held in the county, we have a very good reason to give why it was not. The day previous to the fair, was one of the most rainy we have had during the season; and the morning of the first day was wet and cold, which prevented very many of the farmers from distant parts of the county, from being present with their stock and other products of their farms.

The number of entries made upon the secretary's book of animals, articles and other products, was 327. The number of horses and cattle was not as large as we have seen at our previous fairs, but were generally of superior quality. The display of horses was very creditable to our county. Milch cows were thought to be the best ever exhibited in the county, they were generally a mixed breed of native and Durham. Mr. Hamblin of Aurora, exhibited some very fine specimens of Devon cattle, which were much admired.

The show of sheep was not large but there were some very superior specimens of French and Spanish Merinoes, shown by the President, and by Lewis Munn of the town of Alden. There was also some very good Leicesters shown by Mr. Bicknell, of Aurora; the show of hogs was ordinary.

The products of the county, such as butter, cheese, honey, &c., were well represented, especially butter, on account of the high premiums offered for the best specimens of that article, there was much competition, the committee that examined it reported it all to be *good* and some very superior: of cheese there was but a single lot exhibited.

Domestic manufactures were exhibited in abundance, and contributed largely to the interest of the fair, fully establishing the good taste, ingenuity and industry of the ladies of our county. The mechanical productions of agricultural implements were not so numerous as at some previous fairs, but there were some very excellent wagons and other farm implements exhibited. The exhibition of grain and root crops was good.

The show of fruits and vegetables, was the best ever exhibited in the county, there has been much improvement made in this important branch of industry in this county within the last few years.

Poultry was shown in abundance of all shades and colors, from the highest *hen fever* variety down to the old speckled hen.

The officers and members of the society have great reason to be encouraged with their prospects, and there can be no doubt that Erie county will eventually do her duty. The farming interest seems, to some extent, to have awakened from its lethargy, and is determined to enjoy the means of improvement which are placed within its reach, and to do credit to this great and all important industrial pursuit

In the forenoon of the second day of the fair we had a spirited plowing match, in which four teams entered for the prizes, the work was well done by all, and in remarkably quick time, and the best kind of feeling prevailed throughout the contest.

In the afternoon the address was delivered by Mr. W. R. Coppock, which from its highly scientific, and at the same time plain practical bearing, and the very attentive manner in which it was listened to, we may calculate to have a lasting and beneficial influence in our county.

After the address the premiums were awarded and paid, and a place agreed upon to hold the next annual fair, and then the election of officers took place.

The whole amount of premiums offered was abont $100 00.
Our account for the year stands as follows, viz:

By balance from last year (1851,).....	$148 30
Cash for membership in 1852,.....	186 00
Received for books sold,.....	3 25
Due from State (not yet received,).....	186 00
Total,.....	$523 55

To cash paid as premiums, ...	$259 00
Paid for printing and incidental expenses, ...	57 00
Balance on hand, ...	207 55
Total, ...	$523 55

AMOS CHILCOTT,
President.

East-Hamburgh, Feb. 1, 1853.

Cattle.—The breeds most common are the natives. The improvements in progress are a judicious crossing with the Devon, (of which we have a few) and the Short-horns.

Dairy animals.—The breeds of cattle most approved for the dairy so far as they have been tested, is half native and half Durham, for market many prefer a cross with the Devon. There has probably been a decrease in the number of animal stock, during the past year, owing to the high price of meat and short crop of hay.

Increase of scientific attention to farm cultivation. Drainage is beginning to receive considerable attention, and when properly done the results have been satisfactory; the drain tile has been introduced in our county within the last year, and considerable of it has been laid near the city this fall, sufficient time has not yet elapsed to fully test the utility of it.

The increase of the value of farms in this county within the last year I think has been at least ten per cent.

Our place of market is Buffalo. We have good plank roads leading to the city from all directions. I think the average expense of getting our produce to market does not exceed five per cent.

I send you with this a pamphlet containing a brief account of our county fair, together with the address of Mr. Coppock in which you will find the subject of draining and subsoil plowing spoken of, as well as other practical and scientific farming, which will be more interesting to you than any thing I can write.

Very respectfully y u's,

AMOS CHILCOTT,
Late President.

ERIE.

Wheat.—52 bushels to the acre.

Erie County, ss.

Truman Pattengill, of the town of Wales, in said county, on the 25th day of September, A. D. 1852, personally appeared before me, the undersigned justice of the peace, and made oath that he raised in the years 1851 and 1852, fifty-two bushels of wheat on one acre of land, by weight and measurement, of which the within is a sample; and that he put on forty loads of cow and horse manure on said acre, (principal part cow manure,) in the month of May, 1851, and cultivated it into the ground; that he then planted the same to corn, and raised a crop of corn on said acre; that he then sowed it to wheat, (after taking off the corn,) on the 16th day of September, 1851; that the probable expense of raising the crop of wheat was thirteen dollars and seventy-five cents; that he put on said acre of land one sowing of plaster in the month of June, 1852, and that he sowed two bushels and three pecks of wheat on said acre.

TRUMAN PATTENGILL.

Sworn and subscribed the day and year first above written,

STAFFORD PIKE, *J. P.*

Indian Corn.

TO THE PRESIDENT OF THE ERIE COUNTY AGRICULTURAL SOCIETY:

In compliance with the rules and regulations of your society, I submit the following statement of the manner of raising a field of three acres of corn, a sample of which is on exhibition at your present annual meeting. The field on which this corn was raised has been in grass for the last three years, and was prepared for the crop of corn by drawing on to it about twenty loads of unfermented barnyard manure to the acre, which was plowed early in May. The plowing was performed with three horses, to the depth of eight or ten inches. The corn was planted during the 17th and 18th days of May, in rows of three feet and a half each way, and from six to eight kernels were dropped in each hill. The corn was cultivated and hoed early in June, and

again towards the middle of July, when the number of spears in each hill were reduced to four. Immediately after the first hoeing a tablespoonful of plaster was applied to each hill.

A part only of the corn has been husked, which was of an average growth with the whole field, and which yielded at the rate of seventy bushels of shelled corn to the acre.

JOHN WOODRUFF.

East-Aurora, Sept. 29, 1852.

EXTRACTS FROM W. R. COPPOCK'S ADDRESS.

Advantages of Subsoiling.

"Upon a piece of land rather less than an acre and a half, that had last been in potatoes, yielding a miserably poor and scanty crop, I had the second season a crop of barley amounting to over 60 bushels an acre. That is from the one and a half acres we obtained 95 bushels of grain, 70 of which were sold for seed. The balance I again planted. The soil varies from clay loam to gravelly loam. It was worked as deep as we could work it, and had about fifteen loads leached ashes, about ten loads refuse hair from the tannery, with about fifteen loads of stable manure. The land was seeded with clover and timothy, which cut this season fully three tons to the acre, while the rowen upon it at the present time would cut a handsome crop. Upon the other portions of my farm, with the same deep tillage, my crops of corn, potatoes, carrots, &c., have been fully equal.

"A word or two more about subsoiling. Facts have fully demonsfrated that if the subsoil can be brought in contact with the atmosphere, certain chemical changes take place which render it capable of sustaining plants, and the subsoil plow, while it admits the atmosphere to percolate the subsoil, does so without necessarily mixing the sub with the surface soil; and that most subsoils, after frequent plowings, are rendered fully equal in quality to the superincumbent soil. Sometimes surface soils are found to be too thin to contain sufficient pabulum for plants, and therefore they must be deepened; but if this be done by turning up immediately a considerable portion of the subsoil, the mass will not have the

necessary qualities desired; and therefore it is preferable to prepare the subsoil by the admission of atmosphere, before combining large quantities of it with the surface soil; that after one or two years thorough subsoil plowing, we may then combine the two without fear of injuring our crops, but, on the contrary, we find them greatly improved by such treatment. "Sometimes the subsoil is composed principally of clay, and will not permit the surface water to pass freely down, thus causing the surface to become acid, too compact by excess of wet, and the plants from such excess of moisture cannot thrive. In some localities we find a thin surface soil underlaid by a hard pan subsoil, which is so compact that the roots of plants cannot penetrate it, and thus for want of being able to adopt their natural configuration, the plants die. In both these cases, subsoil plowing is found to remedy the evil. With the clayey subsoil the cut made in or through it often permits the excess of water to escape, and the hard pan subsoil, by the mechanical disintegration of the plow, is rendered permeable to the roots of plants; and in both cases the constituents of the atmosphere and gases it contains, can reach the roots of the plants, even to their termini, which could not be the case unless by the assistance of the subsoil plow. Nor do the advantages of subsoil plowing end here. Soils may not only be deepened, sweetened, and otherwise improved by this practice, but in seasons of excessive rain or droughts, the crops are more likely to succeed than if the soil had not been subsoiled. Excess of rains may pass down, while in the drought the roots may go down to a lower point to find moisture, and thus the whole plant is sustained."

"During the present summer's severe drought, I have had a fair opportunity of observing this fact, while parts of my crops and those in the neighborhood, on soils not subsoiled, died out, the same crops on subsoiled land flourished with exceeding vigor. Corn curled and dried up within a few rods of strong-growing and beautiful plants in a deeper-worked soil.

Cultivation of Potatoes.

"I would here mention a palpable error so common with us in the cultivation of hoed crops, especially corn and potatoes. I mean the careful hilling up. This practice, like many others,

is an important one. English gardening has been adopted into this country with marked injury. The humidity of the atmosphere there, and the almost constant rains rendered it necessary, to git rid of the superabundant moisture, by hilling up plants and raising and crowning garden beds. While here, during the growing season, we are subject to drought, and require all the moisture we can husband for the sustenance of the plant. Hence we require flat culture and flat or sunken garden beds, with a deep and permeable soil that shall catch and oblige to pass through it every summer shower.

"In the culture of potatoes, after the land is thoroughly plowed, and harrowed smooth, I plant with the spade, thus: Strain a line, if convenient, north and south; a man puts in his spade spit deep, say seven inches; the first earth he scatters; he then steps back, and at about twenty inches he puts in his spade to the same depth. The soil thus raised covers the first planted, the third covers the second, etc. A boy to drop the cut potatoes, two eyes to a hole, will attend very well to three lines. Thus you will perceive they are sure to be at equal depth, at equal width, about three feet, and in perfect line. The field planted, a light harrow is passed over it, and again, in the course of eight or ten days, disturbing the first growth of weeds and keeping the surface mellow. After the plants are up, run a cultivator through once in ten days, until they are in blossom, when, after that, they should not be disturbed. With such culture I have had great success, and the cost has not exceeded $6 per acre, exclusive of seed, and yielding from 100 to 150 bushels of fine size, sound pink-eye potatoes, most of which were marketed last year at eight to ten shillings per bushel.

"The present season I planted two acres of the pink-eyed varieties. The seed selected were from the undersized or medium, excepting six rows, which were of the smallest kind, usually called pig potatoes. Being short of seed, I ordered the cullings not larger than a common marble or hickory nut, to be used to finish out with. The result is, these six rows are equal in every respect, and by the diggers thought to be better than any other portion of the whole plot.

"Deep planting, abundance of alkali, salt at the rate of one or two bushels per acre, and the exclusion of fresh manures, are the chief requisites for this crop.

Shallow plowing unprofitable.

"There is no error in husbandry that has proved so fatal to progress, and has been so unhesitatingly clung to as shallow plowing; and indeed, even now, amidst the experience of practice and the assurance of science, the difficulty of persuading men's minds to try and test for themselves, is met by distrust and unconcern. Mr. Warren Granger, a neighbor of mine, at my suggestion made an experiment on a piece of stiff clay land, having an uneven surface, and a steep side slope, which was selected for a fruit and vegetable garden. This piece of land, wet and cold through the spring, holding water in the depressions, and baked bone-dry through the summer, was subsoiled and tile-drained, the drains 30 feet apart, three feet below the surface. The soil, since the work was done, looks, and is entirely changed. The rains instead of running over the surface, washing away its fertility, percolates the soil, depositing its ammonia and other matter it contains near the surface, while the superabundant water passes through the tile. A remarkable fact connected with draining is the heightened temperature of the soil. Careful experiments have proved this. Even ordinary trenching or subsoil plowing, renders the soil a week or ten days earlier in the spring, while deep draining, say to four feet, raises the temperature fifteen degrees. Such lands never suffer from drought, they are early, require less manure, are quick and easily worked, and although expensive at the onset well repay the cost."

FRANKLIN.

B. P. Johnson, Esq., Sec'y of the N. Y. State Ag. Soc.:

Dear Sir:—I regret to be obliged to say that I cannot return to you any reports or statements, as contemplated by law, to accompany applications for premiums. This requisition was entirely overlooked by the executive committee, consequently I have none to transmit to you. I shall look to this next year. It was

a new business to our committee and officers this year, and this must be our apology for this neglect. Our first fair was held at Malone, on the 6th and 7th days of October last. It was regarded as an experiment here, but it has succeeded beyond our most sanguine expectations. Our list of premiums was necessarily small, because of the uncertainty of raising funds. In this respect, however, we succeeded much better than we expected. We have paid off all our liabilities, and have on hand $278 to commence the next year with. The fair was well attended from this and adjoining counties, and Canada. The exhibitions in the various departments were highly gratifying for the first year. Our farmers and mechanics were highly gratified with the fair. The institution promises great usefulness to our county society, and I think will be well sustained. I cannot send you this year such an account of our proceedings as would be desirable, but hope hereafter to be better prepared to send you a more detailed report.

SIDNEY LAWRENCE, *President.*

GREENE.

To the Executive Committee of the N. Y. State Ag. Soc.:

The undersigned, President of the Greene county Agricultural Society, in pursuance of the statute, submits the following report: That an agricultural cattle show and fair was held in Cairo, in said county, on the 20th and 21st days of September, 1852; there was a fair display of stock, and a large portion of it of fine quality. The exhibition of sheep was large and excellent.

The attendance at the exhibition was good, better than usual, and a very good spirit seemed to prevail. There was not so many articles entered for premium as there has been in previous years, owing to the severe drought, but the articles were such as to merit general attention. The attendance at the fair was unusually large, and the affair went off in a very spirited and happy manner. Much interest was added to the occasion by the address of Mr. Smith.

The whole amount of premiums awarded was $187; of this amount, 182 have been paid out. There is now in the hands of the treasurer $115.

All which is respectfully submitted.

EDWARD JOHNSON, *President.*

Durham, Feb'y 12, 1853.

At the annual meeting of the Greene county Agricultural Society, held on the 4th of January, 1853, present Edward Johnson, President; H. L. Day, Secretary.

The following named persons were duly recommended and unanimously elected.

Officers for 1853.—Marcus Beach, President; Stephen Hedges, Lewis Sherill, Peter Dubois, George Robertson, and Hezekiah Smith, Vice Presidents; Augustus Hill, Recording Secretary; E. B. Fenn, Corresponding Secretary; E. Johnson, Treasurer J. A. Cooke, John T. Quitman, E. P. Smith, Albert Tuttle, Cyrus Smith, N. Clark, Stewart Austin, George Budd, Stephen Steele, George Beach, Collins B. Johnson, Executive committee.

HERKIMER.

REPORT OF THE SECRETARY.

The annual fair and cattle show of the society was held on the 28th and 29th days of September, 1852, at the village of Herkimer. The attendance was larger than at any previous meeting of the society. The first day was devoted to the entering and arranging of stock and articles for competition for premiums, and although the weather was very bad with a cold rain, rendering it almost impossible to attend to the necessary duties on the ground, the entry of stock, agricultural and mechanical implements, domestic and household manufactures, fruits, grains and vegetables, and fancy articles of all descriptions, far exceeded anything of the kind ever witnessed in this county.

On the second day the weather was fine, with bright sun, atmosphere clear and warm, being just such a day as one would wish for such an occasion. The forenoon was occupied in examining the several articles entered for premiums. The afternoon was devoted to the address of B. P. Johnson, Esq., Secretary of the State Agricultural Society, which was listened to by a large and delighted audience, after which the reports of the several committees were read and premiums awarded.

The reports of some of the committees are hereto attached, and go to make part of this report. It is to be regretted that so few of the committees made a report in a shape so as to be printed.

It is deemed unnecessary to particularly notice every department of the exhibition; it suffices to say that it was unquestionably good in all its various departments, both as to quality and quantity, far exceeding any previous county fair ever held in Herkimer county. Our society is in a flourishing condition, and under its present organization, with the aid of its present able and energetic officers, and the hearty co-operation of the men and women of Herkimer county, promises much future usefulness, and that it shall be second to no society in the State.

The following are the reports of such committees as were handed to the secretary, with the statements of some of the successful competitors.

STATEMENT OF RODNEY WILCOX'S FARM AND ITS MANAGEMENT.

I took possession of my farm, situated in the southwestern part of the county, in Litchfield, in the spring of 1831, consisting of 160 acres of land, at a cost of $16 per acre, with poor buildings, and fenced with rail fence, and that very poor. The soil is a mixed sandy gravel and clay loam, generally termed a sandy loam, lying upon a limestone rock, which in some places comes to the surface, furnishing good material for fencing and building. My first farming operations were clearing the surface of the ground from stone, and raising grain, chiefly corn, wheat, barley and oats, which were generally a good crop; but grass was a light

crop. My rule has always been to cultivate thoroughly till the soil was clear of grass and weeds, before stocking with grass. In seeding, I sow 2 bushels of wheat per acre; 3½ bushels of barley, 3½ bushels of oats, one-quarter bushel of corn. For seeding I wet my grain before sowing, and mix 6 quarts of lime and 6 quarts of salt with the seed for each acre; and for seeding to grass, I mix 8 quarts of timothy and 2 quarts of clover with the seed grain for each acre, and sow it with the grain; I drag before and after sowing, and have never failed in seeding in this way.

I give my soil a top dressing of manure, and drag thoroughly after it, which helps seeding very much. I have the best success in seeding grass with barley; I mix my grass seed and grain together, and soak them 12 hours and then sow. My attention has been turned more to grazing and dairying for ten years past than formerly, by which I find my farm improving in productiveness. I practice hauling my manure and spreading it at once, so that a portion of the land where the heaps are dropped, shall not receive so much soakage from the heaps as to cause the grain or grass to lodge in spots and make the grain crop spotted, and ripen unequally. I usually bush the manured portion of my meadows early in the spring after a rain, and again the last of May or first of June. I have never tried any other than barn-yard manure and gypsum. I think gypsum is good on grass land. The average yield of hay per acre this season on my meadows is estimated at 2½ tons per acre. I have cultivated 32 acres of land this season; 1½ to winter wheat; 3 acres of spring wheat, (black sea wheat); 7 acres of barley; 3 acres of oats, and the remainder to corn and potatoes. The average cost of producing and fitting wheat for market is 47½ cents per bushel; barley 32½ cents per bushel; oats 18 cents per bushel; corn 32 cents per bushel.

My manner of manuring cultivated land is to apply 30 loads per acre, and plow it in and work it in with the soil, and such manure as I can not carry on to the land in the spring, I pile in the yard and haul it out in the fall. My land produces now five times the amount of grass annually per acre that it did when I commenced upon it, and much more of all kinds of grain, and the chief causes I attribute to deep plowing and manuring. The

cost of improvements upon my farm in building and wall fence is, for building 1,100 rods of stone fence at an average cost of 12 shillings per rod,..... $1,600
For building barn No. 1, with basement for stabling,.... 400
For building horse and carriage barn No. 2,..... 125
For repairing barn No. 3,..... 75
For building milk barn No. 4, 32 b7 75,..... 400
For building corn barn with basement,..... 150
For repairing cheese house,..... 75
For building ice house 12 by 12,..... 25
For building dwelling house and yard,..... 3,100

$5,950

Treatment of Cows.

In winter I provide warm stables and plenty of hay, feed twice a day, what hay they will eat; when the weather is pleasant let them out at 10 o'clock, and put them up at 4 o'clock; when unpleasant let them out only to drink; I estimate 2½ tons of hay per cow to winter them, and two acres of pasture to each cow for summer, with extra feed in spring and fall. I commence feeding with two quarts per cow daily of corn ground with cob and oats, of equal parts, a few days before coming into milk, and continue so until turning to grass; and commence again in the same way about the first or middle of August, or feed with green corn stalks, raised by planting 15 by 30 inches apart, and from 4 to 6 kernels in a hill; feed this until frost comes, then feed as usual again until dried off; I prefer feeding dairy slops to swine, rather than feed it to cows.

R. WILCOX.

Although Mr. Wilcox has not been favored in the lay and locality of his farm like many others, still his indomitable perseverance and industry with good calculation and economy, is the secret of his success as a farmer. It may be truly said of him that he has made two blades to grow where one formerly grew, besides an outlay of nearly six thousand dollars in permanent improvements in stone fence and buildings.

Mr. Wilcox thinks that sixty dollars per acre for his land is as near its intrinsic value now, for agricultural purposes, as sixteen was when he took possession of it, owing to its increased productiveness, and the feasibility of working it. Mr. Wilcox commenced poor, and paid for his farm mostly by working out by the month at high wages, and has made all his improvements, and reared a numerous family, all from the product of his farm, an example rarely met with, but shows what the soil will do for us if judiciously managed. It is said of Mr. Wilcox, that when a laborer by the month, the sun never shone upon the upper side of his eye-lids; and since a dairyman the sun *never shines in his milk pails.*

The committee award the first premium to Mr. Wilcox on his farm, and recommend it as a model farm.

A. L. FISH,
ANSON RIDER,
WM. STEWART,
Committee.

STATEMENT OF CONRAD OXNER, OF COLUMBIA.

My farm consists of 95 acres of improved land, bought in 1813, at $40 per acre; general character of the soil, a deep gravelly loam.

My farm is devoted to grain-raising and dairying; my usual practice is to plow six inches deep and take off two crops of grain, and seed down again; if to meadow, I sow 8 quarts of timothy seed per acre; if seeding for pasture, I sow mostly clover. I sow black sea wheat after oats; sow 3 bushels of oats per acre, or 1½ bushels spring wheat. I draw my manure out upon my meadow land fresh from the stable. Plow in the fall and cultivate in the spring, and sow grain as soon as it will answer in the spring.

CONRAD OXNER.

It is due from the committee to state that the premises of Mr. Oxner were found on examination to be managed in a neat and economical manner. Although nature has done much to aid Mr.

Oxner in the situation and quality of his land, much credit is due him for the neat and systematic order in which everything about his premises are kept. In passing over his fields we were not annoyed with seeing in any of them thistles, dock or other foul weeds, nor bushes, or hedges about the fences, nor pieces of rails, stumps, or stones upon the surface of the soil; all was clean and workmanlike, giving an opportunity for every foot of soil to grow useful plants, instead of weeds and thorns, which accounts for Mr. Oxner's being able to keep upon his farm of 95 acres, 35 head of cattle and horses through the year upon the product of the farm, besides selling a large quantity of grain annually.

The committee award to Mr. Oxner the second premium on his farm, and deem it worthy of example.

Statement of Rodney Wilcox on Cheese.

This cheese was manufactured July 20th, 1852, from 150 gallons of milk; the cheese weighed 145 pounds; I use ice to cool the milk to about 75 degrees; the temperature of milk when rennet is applied, from 86 to 88 degrees; a sufficient quantity of rennet to curdle the milk suitable to commence manufacturing the cheese in from 40 to 60 minutes; I cut the curd and let it stand about ten minutes, and then work carefully until of a suitable fineness, then let the curd stand about 10 minutes, or a sufficient length of time for the curd to settle from the whey; then take whey sufficient to scald, (I use Mott's patent furnace to heat whey,) after drawing off the whey I continue to work the curd until of a suitable fineness to commence scalding; then heat to 95 degrees; continue careful working about 30 minutes, then heat to 104 degrees, and stir occasionally until sufficiently scalded. I use the best barrel salt, one pound to forty pounds curd; I turn the cheese once in the press, press 24 hours; turn the cheese every day, and rub them well, and apply whey butter to the face of the cheese to keep the face from getting checked; keep the room well ventilated.

RODNEY WILCOX.

REPORT OF THE COMMITTEE ON DAIRIES AND ENTIRE FARMS.

The committee on dairies and entire farms, respectfully report that ten dairies of cheese were entered for premium, according to the rules of the society, which were duly examined in June and August, by said committee, and a sample of each was exhibited at the fair at Herkimer. The committee have examined the dairies of the following persons:

Mathew C. Rider, Rodney Wilcox, M. and G. Everet, Albert Holcomb, in Litchfield; John L. Eaton, Conrad Oxner, in Columbia; Jonathan Jones, Alonzo Wood, Columbus Morgan, —— Bonfoy, in Winfield.

On examination in June, it was a difficult matter to determine as to the comparative merits of different dairies, all being manufactured nearly alike by report, and at that stage of maturity only a close examination could gain a preference. A much greater difference in the quality of cheese was manifest on the examination in August. Such as were deemed of superior quality in June, were (many of them) of inferior quality in August, after standing through the heat of summer, and beyond the period of their maturity for market; showing the necessity for a mutual understanding between the manufacturers and cheese dealers, so that the supply of cheese for summer trade shall not exceed the demand, which is always detrimental to the dealer and producer, as it must go forward and be consumed at its maturity, or be held as an impediment to fall trade, from its poor quality. The great desideratum in cheese making, is to form as near a solid as possible, and still retain moisture enough to produce a buttery texture in the cheese. The more compact the cheese is welded together, and destitute of holes or pores within, the less salt is required to preserve it from tainting. Salt is used as a controlling agent, to suppress the fermentation and decomposition introduced and carried on by the combined action of heat and rennet. Hence the necessity of the two latter agents being allowed to finish their work and expel all the fluidical properties of the milk before the curd is cooled, or salt added, as either are antagonistical to the agents first used, and if added too soon, rennet will be held in

solution with whey in the curd, and will not press out, and will cause a rapid fermentation in the cheese when exposed to summer heat, unless salt enough is added to suppress it; the whey will then be held in the cheese, and will sour and prevent the curd from welding, and prove to be a bad cheese for any market.

The committee feel warranted by their own practical experience, and their observations in examining dairies this season, in urging upon the dairymen of Herkimer county, a studious observance of the following, as cardinal points in successful dairying, viz: Good condition and perfect health of cows at all seasons of the year. A uniform and plentiful supply of nutritious food for them, with perfect quiet; plenty of good water, requiring but little exercise to obtain a frequent supply; warm and dry stabling in winter, with quiet and careful handling; thorough and quiet milking at particular hours by the same hand; uniformity of good health in all the flock of cows, that the milk of all may be as near as possible of a sameness, as the strength of coherence in all solids depends upon strict affinity in their constituency; a uniform application of all the agents to the whole mass, in heating, cooling, working, salting, &c., making all the changes from cold to warm and from warm to cold, slow and uniform through every part and particle of the whole, that the affinity here spoken of may be preserved through the whole and to the last, and a more perfect solid may be the result of the practice. No rennet should be used except from calves in perfect health, as one unhealthy stomach might cause much trouble to the cheese maker, and avoid a skilful search for its origin. And last yet not least, after all has been well done, no reliance can be placed upon the result of a season's operation without curing rooms, so constructed as to adapt the temperature to the constitution of the cheese, and protect them from the influences of the sudden and extreme changes that our climate is subject to.

Nature has established the fact that no county in the State has facilities for making better milk than Herkimer; but it is to be feared that the old traditionary habit, (too much adhered to,) of letting cheese cure themselves in some place least needed for

other purposes, will be the means of her being rivalled in her merited reputation for fine cheese.

Dairymen of Herkimer county, will you give heed in due time to save yourselves from being slaves to an unprofitable business by manufacturing a poor quality of cheese when a good quality can be made as cheap. In view of the vast increase of cheese making in other counties and other States, it behooves us to improve the quality of our cheese to keep good our former reputation in market, and to increase a demand proportionate to increase of product. Let us try.

A. L. FISH,
ANSON RIDER,
WM. STEWART,
Committee.

Address of the President to the Judges.

My object in addressing a few words to you on this occasion, before entering upon your respective duties, is to call your attention to the necessity of adopting such a rule of action, as will enable each class of judges to present to the society a formal report, for publication in the journal of the society, as the result of their observations, and careful examination of all the articles and animals exhibited for inspection, with such details and suggestions as will, when published and spread abroad, excite new reflections by those who are interested in productive labor, and thus open the door to new and important improvements.

Strict conformity to such a rule seems to me to be indispensable to the best interests of the society.

It is to be regretted that we have not at our former fairs, been able to collect such facts from the experience of successful competitors, and record them in the journal of the society, as would now show us by referring to them, what improvement has been made, and what is the cause. It would be gratifying indeed to look back through the records of the society, and see what the particular merits of the articles and animals for which premiums have been awarded, consisted in; to see what was the breed and live weight of animals at a certain age, and the particular manner

of feeding and raising such animals, that we might judge correctly of their comparative value as a breed. If their superior excellence was the result of some freak in nature, changing their physical economy for the better, we want the breed. But if produced by judicious management in feeding and grooming, then we need the practice.

So in relation to cultivating grain, fruit, vegetables, and all other products. Whatever practice is followed by the best success, every member of the society should be made acquainted with, by publishing the reports of the several committees annually in the journal of the society, which in my view is justly due to the unsuccessful competitor, and members who do not compete for premiums, and to the whole community.

A large proportion of those who are now standing members of this society, have never competed for a premium offered, and perhaps did not join the society with that view, but to aid improvement in different vocations, by disseminating through the society such information as will facilitate labor and improve our social condition. These are the primary and professed objects of forming and sustaining agricultural societies, and the object aimed at no doubt by the Legislature in appropriating funds for the use and benefit of agricultural societies.

For accompanying the act of appropriation was a condition, requiring that before any premium shall be delivered to the person or persons to whom they are awarded, they shall deliver in writing to the proper officers of the society an accurate description of the process of preparing the soil and raising the crop, or of feeding the animal; also the expense and product of the crop or the increased value of the animal; with a view of showing accurately the profits of judicious cultivation of the crop, or of feeding, by which it appears intended that those contributions to the funds of the society should be reciprocated, not in dollars and cents, but in publishing such a knowledge of cause and effect as may be obtained through a well organised agricultural society, as a proper medium.

The competitor, while doing much credit to himself, would promote the objects of the society and greatly facilitate the labors of

the several committees by writing out in a plain form the details of his system of management. But as it has not been strictly enforced heretofore as a rule of the society, it is not expected that competitors generally will be prepared to present to the several committees such statements in writing as are requisite; the amount of information obtained, therefore, will depend much upon the earnest and inquisitive investigation by the judges as to the whys and wherefores.

I do not propose to dictate a particular manner of the numerous inquiries necessary to be made, but would respectfully invite your attention to proper cultivation and rotation of crops, to retain the productions of the soil, the requisite amount of seed, and when to be sowed or planted in seeding for various purposes, the suitableness of particular soils for particular crops, and their comparative cost and value for different purposes, a proper application of manures appropriate to vegetabla growth, adaptation of food to the physical economy of the animal. Breeding and rearing animals for specific purposes, a judicious selection of farm and mechanical implements, as matters that come within the routine of our every day's practical operations, and should engage our earnest attention.

I am aware that the limits prescribed by the rules of the society will not admit of awarding premiums for all the animals that may be exhibited, yet a proper commendation upon the merits of such as are worthy, would be just and encouraging to unsuccessful competitors, and perhaps excite them to useful exertions to excel at a subsequent fair. A very prominent object of an agricultural society, is to get an exhibition annually of a great variety of things that pertain to our domestic enjoyment, so that all who wish, can avail themselves of an opportunity to view and compare the relative merits of the products of well or ill-directed labor, such an opportunity is well worth improving by all classes, and especially by the young and inexperienced; long will the impressions last, which are made upon the ardent and inquiring mind while examining and comparing the numerous articles that are exhibited at an annual fair. To make those impressions more indelible, the comparative merits of different articles and animals

should be written out and published in detail, so that they may be read and reflected upon as means of maturing our judgment.

The prospect before us indicates a much larger exhibition than we have formerly had, and many articles may be presented that are not included in our list of premiums offered. It will be the duty of the committee on unspecified articles, to see that all such articles are examined, and receive due comment, and such awards as the society will admit.

I trust it will be borne in mind by the several committees, that the great objects of our labors, as officers of the society, is to collect information from the experience of practical persons, and I hope we shall be able to gather such an amount of facts as will be worth publishing, and be a volume worthy of a place in every family library in the country.

FRUIT AND FRUIT GROWING.

Columbia, *January 14th*, 1853.

A. L. Fish, Esq.,

President of the Herkimer County Agricultural Society:

Dear Sir—By your request I have been induced to say a few words on the subject of fruit growing and of the kinds I have grown which I deem best for cultivation in this section of the county.

It would be presumptuous in me to say much on the subject of fruit culture, when such men as J. J. Thomas and P. Barry, have written and published so much and so ably on the subject. Their works through the agricultural societies of the State are getting so extensive a circulation, that every one disposed to obtain knowledge on the subject can readily obtain a copy. Those of us who go into the cultivation of fruit beyond what is wanted for home use, do it for profit, and I have no doubt with a little care and attention, can make it so with many kinds. Of apples I would recommend Rhode Island Greening, Swaar, Roxbury Russett, Herfordshire Pearmain, (by some called English Pearmain,) Northern Spy, Spitzenbergh, Baldwin, Golden Russett, Tallman Sweet, Blue Pearmain, (large kind.) Fall Pippin, Rambo, Lowel

or Tallow Pippin, Rag Apple, Tart Bough, Sweet Bough and Nonesuch, so far as my experience goes these are as good if not the best of any we can grow for market or for home use. The Gravenstein, Hubbardston Nonesuch, Porter, Pomme Gris, Early Joe, and many other kinds I have growing, but these have not as yet come into bearing sufficiently for me to test their worth; they are all highly recommended and are worthy of a trial.

The Middle apple, a native of this county, is one of the very best, but unless it can be improved by cultivation, will not pay to grow for market, is rather a shy bearer and too large a proportion of unfair fruit; so with the Newtown Pippin, (as regards its unfairness,) so much thought of in some sections. I have cultivated it for several years and have occasionally got some very fair specimens, but in general they are wanting in the high flavor they have when grown on the North river and further south. I would not advise their cultivation for market; the high lands in this county, on the south side of the Mohawk, is probably from eight to ten or twelve hundred feet above the level of the Mohawk, consequently I think we don't have quite as long a growing season, nor in general as warm a sun as in the valley. This may, and probably does, in some measure, account for the difference of many kinds of fruit not growing larger and fairer, or maturing better. I have paid some attention to the cultivation of the Pear for the last few years, not, however, of a very great variety, and would especially recommend the White Doyenne (or Virgalieu,) and the Bartlett. They, with me, have borne well, been fair, and of first rate quality. I had a few for the first, last season, of the Flemish Beauty, they were large and first rate; my Louise Bonne de Jersey, are on standard stocks, have borne well, but have been deficient in flavor; those I have on the quince have not come into bearing; I had a few the past season of what is called the Earl Pear, said to be a native of this county, originated or is now growing on the premises of Samuel and Robert Earl, in the village of Herkimer. From what I have seen of the thriftiness and bearing of the trees, size and quality of the fruit, on these premises, together with the growth and bearing of two years from grafting on my own, I think it highly deserving and would recommend its cultivation; I have several other kinds growing, some have borne and some

have not, of which I cannot say much at present. Of plums I have something of a variety; sold last year some forty bushels, mostly of the Green and Blue Gage, some of the Egg, Washington and Scarlet Bleecker, average price twelve shillings per bushel; they are all good growers and bearers; the Green and Blue Gage is generally known in this section, the Washington and Bleecker not so well. The Washington is one of the most beautiful plums that I am acquainted with, if not one of the best, is one of excellent quality. The Egg when well ripened, is a beautiful and good plum, but is so much inclined to rot on the tree before it is ripe, and while in quite a green state, that it is difficult to get anything like a fair crop, and have them well matured; will scarcely pay to cultivate for market. I had also a few of the Red Magnum-bonum, they were very fine and excellent the past season; I had a few of the famed Coe's Golden Drop, so much cracked up in some sections of the country; did not ripen well and were worthless as to flavor; I am of the opinion that they require more season than we have to give them. The cultivation of the peach is hardly worth the time and expense of trying; I have tried for a number of years; have never had but a few that were eatable; do tolerably well for sauce. I have been quite successful in growing the quince for several years past; by paying a little attention to what Mr. Thomas and Barry say on their culture, I think every farmer could grow them for his own use if not for the market.

The cultivation of the grape in this section, as regards dollars and cents, partly pays the labor and expense they require; the hardiest varieties I am acquainted with (that are worth cultivation,) require to be laid down and lightly covered through the winter; I cultivate but two varieties, the Sweet Water and Isabella; the Sweet Water bears sparingly and will mature tolerably well if the late spring and early fall frost can be kept from them; I do this by covering with some kind of woolen cloth; cotton or linen will do if kept a little above the foliage. The Isabella is a great bearer and good grower, not quite as early as the Sweet Water, but in every other respect is greatly superior in my estimation. I occasionally get very fair crops and very well matured, but have to attend strictly to the covering when signs of frost, by laying the clusters simply between cotton batting. Keep them in

pretty good eating condition, until middle of winter; for myself I am willing to bestow the labor and expense for the satisfaction I take in what I grow. I have cultivated some of the large (or English,) gooseberry, for some years; have done remarkably well and have never as yet been affected with mildew. It appears to me that if farmers would pay a little more attention to the study and culture of more of the choicest kinds of fruit, it would soon excite an interest in themselves and children, that would be pleasing and profitable, and would soon be able to place before their families and friends, many of the luxuries in the line of fruit, that would very much tend towards making their homes a desirable and happy place.

P. H. WARREN.

We regret that we have not room for an excellent report and essay on the cultivation of fruit, by Jonathan Jones. The length of the report, however, prevents its insertion, and an abridgment would not do justice to its merits.

JEFFERSON.

In conformity with the requirements of the State Legislature, I would most respectfully report:

That the annual fair of the Jefferson county Agricultural Society was held in the village of Watertown, on the 16th and 17th days of September. The weather was as fine as could be desired; the numbers in attendance, and the interest manifested, have never been equaled since our first organization.

Quite a number of distinguished farmers from adjoining counties and the Canadas were present, and expressed much satisfaction in viewing our exhibition of stock, vegetable and dairy productions, mechanical and farm implements; also domestic manufactures, in which the ladies of Jefferson are not easily surpassed.

The number of entries were as follows, viz: Of horses, 103; cattle, 102; sheep, 98; swine, 25; poultry, 39; vegetables, 190; farm implements, 267.

In the show of horses we cannot boast of any great improvement, the all-engrossing interest of our farmers being turned towards the production of the *dairy;* there was, however, some good stallions exhibited, together with matched and single horses, brood mares, colts, &c.

In cattle there is more interest taken. Some fine animals of the Durham and Devon breeds were exhibited. Also a very fine bull and heifer of the Ayrshire breed, recently imported by James Brodie, Esq., of the town of Ellisburgh. These animals drew much attention from our farmers, as the breed is said to be superior for their milking qualities They received, as you will observe, the first premium in their class at your State Fair. No definite experiment, however, has yet been made, satisfying the public which of the improved breeds are most valuable for the dairy, many contending that the native breed is equal to any for that purpose.

Specimens of both butter and cheese were exhibited in large quantities, and as usual of a superior quality, as the records of your State Society will attest.

The second day was devoted to the plowing match, which was most spiritedly contested by some fifteen teams entering the field. The winner of the first prize performed his work with a plow manufactured in our own county by Judah Lord, of Watertown; the second by one from the manufactory of E. Davis, also of Watertown. At 12 o'clock the throng repaired to the hall, and listened to an address delivered by the president of the society, the reading of the different reports, and the award and payment of premiums.

Thus closed the fair of 1852, evincing a most spirited and united interest in the welfare of the society.

I have the pleasure further to report, that during the past year our society, (at an expense of $800,) by voluntary subscription, and through the aid of the citizens of the enterprising village of Watertown, have removed the old hall of the society, formerly

situate on the grounds of the county, near the center of the village, on to the new grounds of the society, situate one and a half miles from the center of the village, containing ten acres, enclosed with a tight and substantial board fence, six feet high, and a building erected therein 60 by 30, and devoted to the exhibition of vegetables, the production of the dairy, heavy domestic articles, &c.

The large hall above mentioned is 120 by 60 feet, with a projection in front for committee room and speaker's stand. The interior of the main building is arranged with seats, one above another, from the front across the ends and back sides, comfortably seating some 3,000 persons, in full view of the speakers' stand and the display of domestic and fancy articles, fruits, flowers, &c., which are arranged on the counters in the center of the building. The whole is well floored, lighted and ventilated, making it a place well calculated for the gatherings of the farmer, and the promotion of agriculture and other industrial pursuits.

Our annual meeting for the exhibition of field crops, fruits, and the choosing of officers, was held on the 24th of December. The day was very unfavorable for the occasion, it raining almost incessantly the night previous and during the day. There was, however, eleven towns of our county represented, but in consequence of the weather the exhibition was very small.

The officers for the ensuing year were then chosen, which are as follows, viz: President, Hon. John Winslow, of Watertown; Treasurer, Talcott H. Camp, of Watertown; Recording Secretary, Edward S. Massey, of Watertown; Corresponding Secretary, Hiram Holcomb, and an Executive committee.

A circular communication, from Hon. Hamilton Murray, President of the Oswego county Agricultural Society, was read, soliciting a united action of the county societies in behalf of an agricultural school, upon which a delegation of ten was appointed to attend any convention which might be called for that purpose; also to attend the annual meeting of the State Society, and to circulate petitions to the Legislature of this State for the establish-

ment of an agricultural school and experimental farm. Said petitions are now in circulation and meet the full approbation of the public.

The financial condition of our society, as reported by our treasurer, and audited, is as follows:

Receipts.

Amount of voluntary subscriptions,.....	$284 50	
Amount collected during the fair at office for badges and 1s. tickets,.....	1,032 06	
Received from State Treasurer,.....	183 00	
Amount received at winter meeting, premiums remitted, and pasturage,.....	22 82	
		$1,522 38

Expenditures.

Amount paid on contract for fair grounds,	$165 63	
Paid for premiums,.....	646 50	
For lumber,.....	217 64	
For nails and bolts,.....	76 22	
To mechanics and laborers in erecting Agricultural hall,.....	394 61	
For silver plate on hand,.....	107 00	
To gate-keepers, police and clerks,.....	70 09	
For fodder and pasture,.....	13 00	
For printing, stationery, and other incidental expenses, ...	32 19	
		$1,722 79
Balance due treasury,.....		$200 41

Respectfully submitted,
JNO. A. SHERMAN, *President.*

B. P. Johnson, *Secretary, &c.:*

Dear sir. In replying to the circular of your Society, I must first apologize for its delay by saying that it was received in my absence, mislaid and overlooked, until a few days past.

1. The chief or most staple production of our county is that of the *dairy*. Beef, pork, and some grain, are also exported to some extent.

2. The number of cows in use for the production of the dairy is larger than at any former period; the whole number employed for that purpose in our county can safely be set down at 50,000. In consequence, however, of the severe drought the past season the yield per cow is, as near as I can ascertain, some 15 per cent less than usual.

3. The number of acres occupied for dairy production is near 225,000, or 4½ acres per cow. The quantity of butter and cheese produced from said cows may be set down at about 4,000,000 lbs. of each, and the improvement in quality is also keeping pace with the increased quantity, as the records and award of premiums by your State Society the past two years will fully attest. I think I can say without fear of contradiction, that our county society has done much towards improving both the quantity and quality of this article, as our premiums have been awarded with especial reference to both, the applicant giving full information as to the number of cows, mode of feeding, and process of manufacture, to the traveling committee, who always examine the dairies on the farms personally, and report fully to the society.

4. In regard to the other productions of our county, I would say first that we raise bread sufficient for our own consumption. The average quantity of wheat may be estimated at 280,000 bushels, or four bushels to each person, young and old, the larger portion of which is spring wheat, it being the safest on account of the midge; this, together with the Indian corn and buckwheat, is sufficient for our own consumption. The average amount of rye and corn may be estimated at 70,000 bushels of the former and 380,000 of the latter, some portion of which is fed to live stock by our farmers, the balance is used in our distilleries, and notwithstanding the large amount of beef and pork made by them, is *worse than lost*. Of barley we raise about 230,000 bushels, a considerable portion of which is fed, the balance exported for brewing. Of oats, some 450,000 bushels, most of which is con-

sumed by ourselves. Potatoes, carrots and turnips, about 100,000 bushels, none of which are exported. We cut also annually about 130,000 tons of hay, which is consumed by the different kinds of live stock raised and annually kept in our county, which is as follows, viz: Horses, 15,000; cattle of all kinds, 78,000; sheep, 60,000. Allowing 8 sheep to consume as much as a cow, it would give to each animal fed about 2,700 lbs., or 18 lbs. per day for 150 days, which is about the average time necessary to fodder in our section of the State. This, together with the straw and stalks saved from our grain crop, will be found as near as may be what is necessary to keep that amount of stock.

5. The number of acres under cultivation for all purposes, is continually increasing; our farmers are using more economy in the use of fuel, and feel it unnecessary to retain as many acres for that purpose as formerly; besides the population of our villages are increasing rapidly, which furnishes a ready market for wood at from $1.50 to $3 per cord.

6. I think the number of animal stock is not increasing, our farmers finding it for their interest to keep their stock better than formerly. The native or common breed is yet the most numerous. Considerable improvement is, however, making in a cross with the Durham, Devon and Ayrshires. The Durhams are almost unanimously acknowledged the best for *fattening*, and some prefer them to any other for the dairy. The Devon and Ayrshire each have their advocates, the Ayrshire on the whole having the preference. Some, however, still stick to the native breeds, particularly for the dairy.

7. I think I may be permitted to assert that there is truly an increased attention to *scientific cultivation*. Although we have no well *educated scientific farmers* in our midst, there is many who are arousing from the lethargy of the past and looking with much anxiety to the present and future interest of science in agriculture. Our farmers are beginning to learn in very deed that old means of cultivation are failing to produce what they formerly have done, and are anxiously inquiring what they shall do to reclaim and fertilize their once virgin and productive soils. More agricultural books and papers are read, and with much more inter-

est than at any former period. Greater attention is also paid to the making and saving manures than ever before. Little progress, however, can be expected without the aid of chemistry in the analyzing of our soils. We want to know what properties they contain, and what they lack, to produce the desired crop and cultivate them successfully. I trust that we may be permitted to hope that through the aid of our national and State legislators, that aid will soon be derived and administered. That they may be induced for a time to forego the miserable bickerings of party politics, party aggrandisement and party spoils, and turn their attention to the more important and legitimate means of supporting and sustaining the propriety and independence of our State and nation.

8. Draining is receiving increased attention with the most beneficial results. More has been done the past season than ever before. Many acres that have laid for years, entirely useless to its owner, have by the means of draining become the most productive portion of the farm. The open drain is most in use; some are forming the blind drain with the small refuse stones of the field. No drain tile has been used to my knowledge.

9. Our farms are steadily increasing in value. The completion of the Watertown and Rome railroad, terminating on the St. Lawrence river at Cape Vincent, increasing as it has our facilities for transporting and marketing our surplus produce, has also increased the value of our farms at least 20 per cent the past two years.

10. The products of our county are mostly marketed and delivered at Watertown, our county seat, situate near its center, a rapidly growing village, containing near 8,000 inhabitants. Freight is transported from there to New-York at the rate of $7 per ton; live cattle to Albany at an average of $2.25 per head, in cars.

In the foregoing I have endeavored to answer your inquiries as correctly as my limited knowledge would permit, and although submitted at so late an hour, I trust may slightly aid you in the information required.

Most respectfully and truly yours,

JNO. A. SHERMAN,

Ex President.

EXTRACTS FROM THE ADDRESS OF JOHN A. SHERMAN, PRESIDENT.

Agricultural Knowledge necessary.

Every man who owns or superintends the cultivation of a farm should at least understand the character and capacity of his soil, the nature and adaptation of the different manures as applied to the different crops.

But gentlemen, how few, yes, how very few, have the least scientific knowledge of those most important requirements! And how, is it asked, is this knowledge to be obtained? I answer, by establishing agricultural schools and experimental farms. England, Ireland, Scotland and Germany, all have their agricultural schools. France, with a territory about one-third larger than the State of New-York, supports a population of over 40,000,000 souls. This is attributed to her superior knowledge in the cultivation of her soil, derived through the medium of her agricultural schools and experimental farms. Despotic Prussia, too, with a territory only about twice as large as New-York, has six agricultural colleges. In them are taught theoretically and practically, the highest branches of science connected with the cultivation and improvement of the soil; ten schools of the more elementary or primary order; seven devoted expressly to the culture of flax; two to the management of meadow lands; one for instruction in the management of sheep; also forty-five experimental farms, intended to serve in carrying out in practice what is taught in theory, and introducing better modes of agriculture, making in all seventy-two different public institutions for the instruction and diffusion of agricultural science and practical knowledge.

Our neighbors, too, of Canada, whom we have considered far behind us in agriculture, have recently connected a department of agriculture with one of the first literary institutions at Toronto, to which is also attached an experimental farm. May she prosper in this laudable undertaking, and I trust that that reciprocity of feeling which now so happily exists between us, will prompt us soon to follow her noble example.

Pennsylvania has one private institution recently established at Germantown, some seven miles from the city of Philadelphia. This institution is said to be in a flourishing condition, but receiving no legislative aid, the tuition comes too high to be of general use to those of limited means. Ohio has also raised a large subscription to establish an agricultural college. But, gentlemen, the proud State of New-York, the *Empire State* with *Excelsior* for her motto, *has not even one!* With her rich and flourishing State Society, and her numerous county and town auxiliaries, she has not a single school to teach her sons the first principles of its science, or the nature of her soils, and a proposition to establish an institution of this kind, or a department connected with other *public* institutions of learning, has been voted down again and again by her very wise legislators. Now, gentlemen, why is this great apathy in a matter of so much interest and of such vital importance to the whole country? It is no new scheme or untried experiment, for as I have before shown, these schools have been established and continued with great utility and success through most parts of the Old World. Although we feel that we have a government far superior to them, yet we have much to learn from her experience in agriculture and the arts. Prof. Johnston, of England, in his address delivered before the State Agricultural Society at Syracuse, in 1849, says that "two nations of the same blood, placed otherwise in the same condition, the one which teaches the principles of agriculture in her schools will reap the most productive harvests in her fields, and that as in England and Scotland, a time will come in the agricultural history of every country, when old means will fail to maintain its community in a prosperous and happy condition, and when every new means of fertility which advancing knowledge can supply, must be made *generally known* and become *generally employed.*" Nationally, this subject has received the approbation of all the Presidents of this great Republic, from the first to the one who now so honorably fills that most important station. Geo. Washington, the farmer of Mount Vernon, who has received the homage of a world; he who every American citizen has been proud to call the "father of his country;" he who after receiving all the glory and fame of a successful revolution, chose the *plow* rather than the scepter; in his last

annual message, when about to lay off the mantle of political power, and sheath his sword in a sheaf of the harvest, used the following language:

"It will not be doubted that, with reference to either national or individual welfare, agriculture is of primary importance. In proportion as nations advance in population and other circumstances of maturity, this truth becomes more apparent and renders the cultivation of the soil more and more an object of *public patronage*. Institutions for promoting it, grow up supported by the *public purse*, and to what object can it be dedicated with greater propriety."

Millard Fillmore, a son of New-York, who now so honorably fills the Presidential chair, he who has so firmly and manfully stood by our Constitution and its laws, in its hour of greatest peril and danger, and who now in his high station is proud to say to his countrymen, that he once swung the scythe and the axe, and used the spade and the hoe to obtain his daily bread: He, too, in view of the increased interest of agriculture, in his last annual message, made the following recommendations:

"Agriculture may justly be regarded as the great interest of our people; *four-fifths* of our active population are engaged in the cultivation of the soil, and the expansion of our settlements over new territories is daily adding to those engaged in that vocation. Justice and sound policy therefore alike require that the government should use all the means authorised by the Constitution to promote the interest and welfare of that important class of our fellow citizens. And yet it is a singular fact that whilst the manufacturing and commercial interests have engaged the attention of Congress during a large portion of every session, and our statutes abound in provisions for their protection and encouragement, little has yet been done for the advancement of agriculture. It is time that this reproach to our legislation should be removed, and I sincerely hope that the present Congress will not close its labors without adopting efficient means to supply the omission of those who have preceded them. An agricultural bureau, charged with the duties of collecting and disseminating correct information as to the best modes of cultivation, and of the

most effectual means of preserving and restoring the fertility of the soil and of procuring and distributing seeds, and plants and other vegetable productions, with instructions in regard to the soil, climate, and treatment best adapted to their growth, could not fail to be, in the language of Washington, in his last annual message to Congress, 'a very cheap instrument of immense national benefit.'"

In our own State, language and recommendations of a similar character have also been used by her most distinguished sons. One of our governors in his message before our Legislature, says that "the promotion of agriculture is not only important, but more important than all other interests combined," and recommended it to their especial care and attention. A bill was introduced in the House of Representatives at its last session, for the establishment of a bureau similar to the plan recommended by the President, but it still remains upon their table without action.

Bills of a similar kind have also been introduced in our own State Legislature, and have also met a similar fate. One I will mention which was introduced and ably advocated by a member of our own county, I mean the Hon. Charles E. Clarke, the farmer of Great Bend. It was for the establishment of a board of agriculture, and defraying the expenses from the Treasury of the State. It passed the House by a respectable majority, but was rejected in the Senate on the last day of its session, by a motion from a very distinguished member of that body to lay it on the table, saying he could not in *conscience* suffer so *mischievous* and *dangerous* a bill as the agricultural bill to pass without fully discussing it.

Such, gentlemen, have been the efforts and such the results in procuring legislative aid in this great and most important branch of national and individual interest. Again I inquire what can be the cause of this stupidity and inaction? Another reason assigned besides its being *dangerous* and *mischievous*, is that we have no means, that our treasury is empty. I would then inquire, is it not the farmer who does more than all other classes combined

to fill up and replenish that Treasury? Is it not from the product of his fields and from the sale of his flocks and his herds, that the greatest portion of the expenses of our government are defrayed? This fact cannot be denied, and if so, why are we thus neglected, while other branches, acknowledged to be of minor importance, are so efficiently sustained and protected? In the mechanic arts, any new invention of the least importance is secured by a patent giving protection to the inventor, and stimulating others to further research and improvement. If, too, means are required to establish a medical college, one for the study of law or divinity, or a school where the art of killing men at the point of the sword or the bayonet can be taught scientifically, then our treasury is full; if not, means can readily be obtained by a loan upon the credit of the State. Millions of dollars have been expended by our government in erecting costly and magnificent edifices for the establishment of these institutions, and appropriations are almost yearly made for their endowment; and from whence, again do I ask, is the means ultimately procured, but from the granary of the farmer? Of this protection and aid we ought not and do not complain, it is right, all that we ask is our just and equal proportion of public benefits, as compared with other branches of industry, or what is now so significantly termed the *learned professions*. It is true that we are receiving a small pittance from the State for the award of premiums, our county receiving $180 per annum, provided we raise the like amount, and in that proportion throughout the State. It is thankfully received and has done much good. But, gentlemen, it does not meet the demand; the progression of the age in which we live requires something more. We sometimes hear those who would be gentlemen, speak *sneeringly* of legislative aid in behalf of agriculture, of scientific farmers, or of gentlemen farmers, and by some of the more wealthy, that they have no interest in agriculture.

But, gentlemen, it should be more fully understood by all, that the talent or the eloquence of a Peel or a Webster, or the combined wealth of a Rothchild and a Baring, an Astor and a Whitney, cannot either purchase or command a single loaf of bread, a yard of cloth, a hat for our heads, or a shoe for our feet unless

first produced by the capital of labor, performed by the farmer or the mechanic.

The seeds of agricultural knowledge, which have been so liberally sown in years that are past by a Buel, a Gaylord, a Coleman, and a Lee, have, in most cases, fallen on good ground, and with proper legislation and thorough cultivation will bring forth fruit an hundred fold.

The increased number of agricultural publications now disseminated through the length and breadth of the land, show most conclusively the great thirst for knowledge on this subject; and, as a little knowledge begets more, the demand will increase, and our farmers will not be content with book or paper theory, but will require to see it practically carried out upon an experimental farm.

We ask not that special protection which is so loudly called for and so liberally bestowed upon commerce and the arts. No, we may talk of high and low tariffs, of home production and home consumption, but give us equally in agriculture, commerce and the arts, *knowledge for protection*, and we can most fully and successfully compete with any nation to earth's remotest bounds.

The plow is of no party, and knows no distinction; she has no narrow or sectional interest; her broad furrows are opened from the east unto the west and from the north unto the south, opening the real and substantial treasures of our nation, which lie buried in her soil, and can only be extracted by the plowshare and the spade, furnishing material for manufacture, stock for the mechanic, freight for commerce, food for all.

Our own population is increasing most rapidly, beside the great tide of emigration from all parts of the old world which is flowing in upon us beyond a precedent at any former period. Our republican government and free institutions, our cheap and fertile lands have attracted the attention of the civilized world, and we have become the brightest and most attractive star in the firmament of nations. It behooves us, therefore, to use all means

in our power to properly husband the present abundant means of life and support. The time is not far distant, notwithstanding our immense territory, with our present ratio of increase, that we shall be compelled to cease from cultivating, as we have in years past, a piece of land until we have robbed it of its natural fertility, and then abandon it for another, and so on from farm to farm, from State to State, and from territory to territory.

Perhaps there is no place in the known world where the yearly and daily laborer, all things considered, is better rewarded than with us. Of this we ought not and do not complain. The man who labors diligently and faithfully from early morn to the setting sun for the sum of fifty cents to one dollar per day, as the season demands, is richly and honestly entitled to that compensation. Still every owner or manager of a farm knows full well that it is only from the strictest economy and perseverance in the management of his farm, that he is enabled to pay even such wages. The same amount of physical labor performed in almost any other avocation produces a better reward. Is this not for the want of a proper and scientific knowledge in the application of such labor? Yes, gentlemen, we are groping in the dark.

Who is there among us that are farmers, (and the same question may be asked throughout our State and Nation,) but with deep regret and mortification must acknowledge that he knows far too little, yea, next to nothing of the scientific principles which govern the growth and productions of his soil?

For myself, gentlemen, I feel it most sincerely. In view of these facts, then, I claim that the most important demand both for the interest of the nation and individual prosperity, is the immediate establishment and endowment of agricultural schools and experimental farms. It is true that an institution of this kind would slightly increase the expenses of our government and draw lightly from the purses of individuals. But, gentlemen, the small amount taken from our pockets would increase the knowledge of our heads, and like bread cast upon the waters return again to our pockets fourfold. Let us lose no time therefore in petitioning for this most important object. Give us an institution devised by the best wisdom and intelligence of our

State, and we shall soon see those of a similar character in every county, where we could at any time congregate and see with our own eyes the beneficial effects of scientific and proper management of the soil, where theory is fully explained and carried out in practice; and I trust, gentlemen, the time is not far distant when every school district in the rural portions of our State will not only have its library but its laboratory, and teachers not only competent to teach the common branches of education but competent to analyze her soils, and teach every boy in the land who is designed to cultivate it its parts and adaptations. An ancient king of Sparta when inquired of what he thought of the most importance for boys to learn, replied, "those things which they will practice when they become men."

It was a most wise and emphatic reply, and one which we of the nineteenth century can adopt with much propriety. We not only require the teachings of agricultural science for our own benefit, but more especially for the young, those who so soon are to fill the places which we this day occupy. Those who have preceded us have done much to ameliorate our condition and increase our happiness. It is, therefore, due from us to those who may succeed us to adopt every means in our power for their welfare.

In establishing primary departments of agricultural chemistry in our district schools and colleges for the higher branches, we should see agriculture taking that high stand which its importance demands. We should create institutions which thousands of young men would seek, who now rush headlong into the overstocked professions, because they have thus far been the highway to fame and distinction, but the larger portion of whom have finally dragged through a life of the most miserable dependence.

Thousands of individuals in our towns and cities, who have been engaged in mercantile and literary pursuits, would hail with joy the establishment of such institutions, where they could educate their sons to a profession free from the care, perplexity and risk which they themselves have been subject to. Those

young men would go forth through the rural districts of our State, distinguished alike for strength of mind, health of body and exemplary habits.

They would carry with them a practical knowledge of the best modes of farming, the best implements, the best seeds, and the best breeds of cattle, and each in his sphere would carry with him evidences of an improved mode of agriculture, and dignify the calling which now by the more ignorant is considered as degrading, unprofitable and uninviting. Such, gentlemen, I believe to be some of the beneficial results which would follow from a proper and thorough education in the science of agriculture. Too long have we timidly knocked at the doors of our legislative halls for aid and have received only the crumbs which have fallen from their tables.

Let us then, farmers of Jefferson, unite in this work of reform in our own important and most useful calling; let us put our own shoulders to the wheel, and (as a politician would say) set the ball of agricultural science in motion. Let petitions be circulated in every town in our county, and we trust that other counties having an equal interest will do likewise, and with one united voice say to the law makers, "we are the sovereign people and you are our servants, and we claim, nay, demand, that aid which is so justly due, still so long denied." With such united efforts we trust that whoever may be honored with a seat in either our State or National Legislature would conceive it to be their first and most imperative duty to carry out the views and wishes of their constituents.

In concluding this subject I would say, that although other avocations may offer larger prizes in the great lottery of life, yet if we compare the advantages of rural industry with those of any other occupation to which man devotes himself, we venture to say that he who is engaged in agriculture has no reason to complain of the lot which Providence has allotted to him. Nothing is more calculated to enlarge the mind, to increase its faculties, or to extend the sphere of rational pleasure than the great study and contemplation of nature.

LEWIS.

The territorial extent of our county is inferior to few in the State, and no other one has greater resources, but owing to the limited means of communication with the great thoroughfare its means of wealth are but partially developed: still there has been great improvement in this respect within a few years, and it now begins to rank with its sister counties. This county, particularly the western half, is extremely fertile and productive and is remarkably well adapted to dairying, to which branch of industry it is principally devoted, producing annually large quantities of butter and cheese of a superior quality, which, judging from the premiums awarded our citizens upon their products by the State Society, are inferior to none produced in this country.

Our last annual fair was held at Denmark on the 14th and 15th days of September last, and the deep interest manifested in the exhibition by our citizens was highly gratifying to the friends of agriculture. Although held on the border of the county still the number of neat cattle, horses &c., was quite large and among them were to be seen many superior animals. The ladies' department was also well supplied with useful and ornamental articles of their delicate handiwork, many of which manifested the most equisite skill and taste.

The committee on dairies of butter and cheese in the further discharge of their duties beg leave to report: That they examined six dairies of butter and twelve dairies of cheese; of the six dairies of butter two were of superior quality and flavor, possessing all the excellencies calculated to command the highest price in market. The arrangement of the dairy houses and dairy utensils exhibited a neatness which of itself seems to indicate a good dairy, and shows an earnest design to excel in the business. The committee feel constrained to say there is but slight difference in the quality, except that the butter manufactured by Mr. E. Woolworth appears to be of a richer color, which is perhaps more owing to the pasture than the mode of manufacture. The following premiums were awarded: on butter, 1st premium to Edwin

Woolworth, 2d, Cornwall Woodworth, 3d, Leonard Pitcher, 4th, Alexander Bingham.

With regard to cheese the committee are of the opinion that great improvement has been made both in the process of manufacture and mode of curing. New dairy houses, much larger and more convenient, have taken places of the old, all of which exhibit neatness. And it is particularly gratifying to the committee as well as to all dairymen to know that Lewis county ranks as one of the first in the State. The committee think that Wm. W. Smith's dairy ranks as one of the first in the county, but owing to a rule of the society, that competitors who have received the first premium the preceding year, should not compete for first premiums on articles in the same class; the committee award the following premiums; best cheese to George W. Henry, Martinsburgh; 2d best, S. D. Mason, Martinsburgh; 3d best, Ezekiel Collins, 4th best, Ellis Cook, Denmark.

Edwin Woolworth's mode of manufacturing butter.

The milk is set in the pans, in warm weather in the cellar; in cold weather in a room above the cellar; I skim the milk in hot weather as soon as it thickens, in cold weather as soon as the cream is sufficiently raised, in from 2 to 2½ days; churn in a dash churn by dog power; take the butter from the churn with a ladle, rinse in cold hard water, in two waters if there are no white caps, if there are any, rinse till they are out. It is then salted with Ashton salt thoroughly incorporated with the butter at the rate of 1½ salt to 25 lbs. of butter. No other substance used: set it in the cellar, next morning slightly worked and packed; during spring and fall, churn in the morning, pack in the evening, cover it with a cloth wet with strong brine then with salt to keep out the air. The tub is prepared by putting one pail of boiling water in and putting the cover on, letting it stand until it is cold, then fill the tub with brine, let it stand and soak three days, then rinse it out and rub with salt.

G. W. Henry's mode of making cheese.

My cheese is made from two milkings, the milk is brought to the temperature of 86 degrees, then annatto is added, afterwards rennet enough to make a curd ready for cutting in one-half or ¾ of an hour. It is then cut in pieces one inch square and left to

settle. The whey is then dipped off and the curd worked until it is fine and firm. It is then scalded by using whey from 90 to 100 degrees heat, stirring it constantly while scalding. It is then dipped into a sink and drained for salting, using one pound of common salt to 40 lbs. cheese. Press it twenty-four hours. The rennet is prepared by putting one half dozen rennets into a jar, adding salt, water and sage sufficient to keep them sweet.

The plowing match was attended on the forenoon of the second day in a field one fourth of a mile north of the village of Denmark; on former occasions of this kind the number of spectators has generally been large, but at this time much larger than ever before. There was a deep interest manifested, not only by the plowmen and owners of teams, but by a considerable portion of the spectators, who were in the field to witness the strife.

The annual address was delivered by Edward A. Brown Esqr., of Lowville. It was listened to with great attention by a large and gratified audience, and was replete with practical knowledge and sound sense, and calculated to encourage the farmer to make an effort to render his occupation more systematic and perfect, and was adorned with many gems of thought.

On the whole the exhibition was quite creditable to the farmers of Lewis, and the hope is earnestly indulged that each rolling year with its "seed time and harvest" may add to their attractiveness and usefulness.

The winter meeting was held on the 23d day of December, 1852, in the village of Lowville, and the following officers were elected for the ensuing year. For President, Seth Miller, of Constableville; Vice Presidents, Harris Blodget, Sanford Coe, William C. Harris, Chas. G. Riggs, George W. Henry, Lewis Stevens, John M. Paris, Gilbert Woolworth, David A. Stewart, David H. Higby; Executive committee, Abram I. Menness, Martinsburgh; Ellis Cook, Denmark; Solomon Phelps, Lowville; Albert Foster, and E. Woolworth, Turin; Recording secretary, N. Duane Baker, Lowville; Corresponding secretary, Harrison Barnes, Martinsburgh; Treasurer, M. M. Smith, Martinsburgh.

N. DUANE BAKER, *Secretary.*

Statement of Albert Foster.

One acre of Corn.

The soil on which my corn was raised the past season, was a sandy loam; the previous crop was grass; I used twenty loads of barnyard and stable manure to the acre. The ground was plowed about the middle of April, about 8 inches deep, and was well harrowed before planting, and was marked out in rows at the distance of two feet and ten inches apart; planted in the middle of May, and manured in the hill with hog manure.

Expense of Cultivation.

Interest of land at $50 per acre,.....	$3 50
20 loads manure at 2s.,.....	5 00
1 day plowing at 16s.,...	2 00
Harrowing at 2s.,.....	25
¼ bushel seed at 8s.,.....	25
4 days harvesting at 6s.,.....	3 00
	$14 00
The corn was sold, 94 bushels, at 6s.,.....	70 50
2 tons stalks,..... ...	10 00
	$80 50
Deduct expenses,.....	14 00
Net profit,.....	$66 50

To the above was awarded the first premium.

Statement of Lewis Stevens.

Winter Wheat which received the first premium.

The land on which the wheat was raised had a crop of barley the previous year. The soil is a gravelly loam, plowed once. Two bushels of seed to the acre, sowed dry by hand, both ways, on plaster used on the crop, after sowing, well dragged in. The number of bushels raised on 5 acres was 170, making an average of 34 bushels to the acre.

Computation of expense and profit.

5 acres of land at $50 per acre, $250 interest per annum,	$17 50
8 loads manure to the acre, 40 loads at 3s. per load,	15 00
Plowing,	7 50
10 bushels seed at 10s. per bushel,	12 50
Harvesting,	10 00
Thrashing,	10 00
Sowing and harrowing,	5 00
Expense of 5 acres,	$77 50
Expense of 1 acre,	15 50

Profit.

5 acres 34 bushels per acre=170 bushels at 8s. 3d. per bushel,		$175 31
Value of straw,		15 00
Yield of 5 acres,		$190 31
do 1 do,		38 06
Yield of 5 acres,	$190 31	
Expense of do	77 50	
Profit of 5 acres,	$112 81	
Profit of 1 acre,	22 56	

LIVINGSTON.

Jan. 19th, 1853.

Dear sir—The Annual Cattle show and fair of the Livingston county Agricultural Society, for 1852, was held at Geneseo, October first and second. A larger concourse of people than ever came together on a similar occasion, testified their increasing interest in the success of the society. The exhibition of stock was highly creditable, fully equal to the average of any former fair. At previous fairs, our county has been proverbial for the large number and excellent quality of working oxen shown, but at this

exhibition, horses seemed to excel. This department was largely represented in stallions, mares and colts. Matched horses for the carriage and farm, and single horses. Never before have we had shown so many fine animals of the above description; nor were other stock wanting to add to the interest of the show.

The interest of the occasion was much enhanced by the large exhibition of agricultural implements. This department, heretofore, has been much neglected with us, but the inducements held out by the society, in the shape of of large premiums, and the enterprise of some of our manufacturers, contributed to make this part of the exhibition of great interest and utility.

In domestic manufactures, the exhibition was meager, owing to the poor accommodations heretofore offered by the society for that department. We hope by another year to erect a permanent building, and to induce by fair premiums, the wives of our farmers to exhibit specimens of their industry and handiwork.

Officers for 1853.—C. R. Bond, of Geneseo, President; Lyman Turner, Geneseo; Samuel L. Fuller, Conesus; Aaron Barber, Lima: Vice presidents: Ephraim Cone, Treasurer; Henry V. Colt, Secretary; and a member of the Executive committee from each town in the county.

ROBERT ROME, *President.*

Henry V. Colt, *Secretary.*

MADISON.

As President of the Madison county Agricultural Society, it gives me great pleasure to report its prosperous condition. The semi-annual meetings have been well attended, and great interest displayed on the part of the members generally, to make the operations of the society as beneficial to the whole community as possible.

The annual fair of the society was held at the village of Eaton, on the 22d and 23d days of September, and is estimated to have been a just indication of the increasing interest taken in the sub-

ject of agriculture and home manufactures in the county. It seems now to be the determination that each fair shall excel its predecessor.

The enclosure of the exhibition was thronged with gratified spectators, none of whom, I presume to say, had time to give to all the objects presented the examination they desired. The horses exhibited were of the usual varieties bred in this State, and excellent specimens of Morgans, Kentucky Hunters, Sir Henry's, Consternation's stock were to be seen among them. Of cattle it will hardly be necessary to say that the members of our society, who took a number of the first premiums at your State fair, were in attendance, exhibiting renewed energy and interest in the success of the county fair.

In sheep, the show made was quite satisfactory, and quite exceeding that of former years. Notwithstanding extraordinary preparations were made for domestic and fancy articles, the departments were filled to overflowing with beautiful specimens from the factories, mechanics and private individuals of this neighborhood.

In the afternoon of the 23d September, the Hon. Timothy Jenkins of Oneida county, delivered an address on the fair ground, which being full of pertinent and practical knowledge, was listened to with attention and profit. The premium list was then read. And the following persons were elected officers for the ensuing year. S. P. Chapman, president; John B. Coe, Vice-president; Thomas A. Clark, Corresponding Secretary; Charles D. Miller, Recording Secretary; Alpheus Morse, Treasurer.

Treasurer's account.

Amount from account last year, ...	$199 45
Received from Comptroller,.....	120 00
Received from members, ...	357 00
Received for admission fees,.....	434 90
Received for interest on money loaned, ...	17 00
	$1,128 35

Amount of premiums paid,.....	$535 00	
" expenses, ...	309 31	
" on hand,.....	284 14	
		$1,128 35

ELIJAH MORSE, *President.*

MADISON

BROOKFIELD TOWN ASSOCIATION.

BROOKFIELD, 12*th January*, 1853.

B. P. JOHNSON, ESQ.:

Sir—Below please see a statement from our town organization, denominated the Brookfield Agricultural society.

The annual fair and cattle show of our society, for 1852, was held at Clarkville, September 29th and 30th. The days were beautiful, and the number of people in attendance very large, gathered from the hills and dales of our own and all the adjoining towns, indicating a lively interest in the cause our society was organized to advance.

The society is in a flourishing condition, and the recent improvement in the appearance of many farms about town indicates a good work begun, proving to the satisfaction of our prominent citizens, the value of such an organization.

The show of horses was acknowleged to be decidedly fine from our own town, and the effect of this part of the exhibition was heightened by some fine horses from out of town.

The show of neat stock was extensive and excellent for a town society, among which was some of the stock that was awarded first and second premiums at the State fair. This part of the exhibition was also heightened by the exhibition of some very fine stock from out of town.

The exhibition of sheep and swine though not so extensive, contained some very excellent representatives of their kind.

The exhibition of poultry was very extensive, and of the finest kinds. Our tent (the society own one 30 x 75 feet,) was literally crowded to overflowing with the products of the dairy, the garden, the mechanic's shop and the work of fairer hands .This part of the exhibition proved universally satisfactory notwithstanding a small charge was made for entrance to it.

In the afternoon of the second day, an appropriate and practical address was delivered before the society by Prof. Gurdon Evans, after which the awards of the judges were read, and the congregated multitude dispersed amid the very best feeling.

The annual meeting of the society was held Jan. 11th, 1853, at which the following list of officers were elected: President, Thomas R. Gorton; first vice-president, Andrew Babcock; second vice-president, Stephen Hoxie; recording secretary, John T. G. Baily; corresponding secretary, A. L. Saunders; treasurer, Luke Hoxie; Executive committee, Hosea B. Clark, Horace Babcock, Winthrop Allen, Gerrett Scott, Samuel H. Burdick, David P. Curtis, Tillinghast Gorton, Joseph Lamb, Alexander W. Denison.

The funds of the society are as follows:

Cash on hand from last year,	$51 92
Received interest on the same,	2 59
Receipts for the year 1852,	276 60
	$331 11
Expended for premiums &c.,	243 97
	$87 14
Received for membership for 1853,	5 00
Donation,	1 00
Balance in the treasury,	$93 14

All of which is respectfully submitted,

A. L. SAUNDERS, *Cor. Sec.*

MONROE.

The past year with this society has been one of activity and progress. The county of Monroe is one of the best in Western New-York, and capable of presenting through her Agricultural society much that is really valuable in the improvements of agriculture, horticulture, and the mechanic arts.

To a large extent this has been the result of the labors of the past year. The farmers have taken much interest in the progress and usefulness of the society, as shown by their liberal attendance and contributions at the plowing matches, and annual show of the society. Two plowing matches took place during the year; the first at Brockport, on the 17th of June, at which there were sixteen competitors. Each plowman was required to strike out a double furrow, and to leave a straight well-finished dead furrow. The work exhibited superior skill in inverting the sod, as well as in complying with the requirements of the society. The second match took place at Brighton, the 7th of October. There were nineteen competitors. The plowing was of a very superior character, and elicited much admiration. The workmen succeeded in burying all the weeds and grass, leaving them covered with several inches of finely pulverized soil, and every way well fitted for the reception of the seed. Two of the Michigan double, or subsoil plows performed excellent work, and promise to be valuable plows for heavy work.

The annual exhibition of the society took place at Rochester, September 29th and 30th. The first day was devoted to an outdoor show of animals, implements, and products, and proved creditable to the county and the society, though but a mere apology for what it might have been, and in future should be.

The improved breeds of cattle were fairly represented, particularly the Durhams, which have many appreciating admirers in this county. Messrs. Ayrault, of Perrinton, Kimball, of Henrietta, Upton, of Greece, and Smith and McHardy of Rush, were among the successful competitors. A yearling bull and heifer, presented by the last-named gentlemen, were very superior animals. The Devons were good, though the absence of some first-rate and large herds left them a little inferior to the Durhams.

Working cattle, cows and grade cattle of superior kinds were well represented.

Horses presenting the requisites of strength, speed, and symmetry, were present in large numbers. Much has been done toward improving our breed of farm horses, though leaving a wide margin for further labors in that direction. Indifferent common, and even poor horses, predominate, even among farm horses. One cause for this is, that all valuable animals are marketed when they command high prices, in the eastern cities, leaving only the least desirable among our farmers. Breeders here, as elsewhere, have not been convinced that it is a losing business to breed any except the best class of horses, as well as other animals. It costs as much to rear a horse that will sell for only one hundred dollars, as it does to raise one that will readily command thrice that sum.

It is a subject of regret that the show of sheep was meager, and those presented scarcely offered a single superior animal. Monroe county has many valuable flocks, both fine and long-wooled, and it is discreditable to the owners and the county that none more worthy of both were on the ground.

The same with equal truth may be said of hogs. Both these animals are deserving of more than usual attention, as valuable for raising upon farms devoted in the main to grain-growing, offering to every farmer a sure source of profit with a moderate outlay. It has been demonstrated that the two branches of husbandry can be prosecuted in conjunction with better success than when attention is given exclusively to either. A better breed of hogs is very much needed with us, a breed that fattens easy, thriving well in the pasture, coming to maturity early, with a weight of 250 to 300 pounds net, at nine or ten months old. Attention might profitably be turned to the Suffolk, to crosses between the Leicester, Byfield or Yorkshire, and the Chinese.

The show of fowls was large and good, attracting much attention. Many of the prominent imported, fancy, high-named breeds are raised with us, more we regret to say as the means of obtaining inordinate prices, than with a desire to test their real value.

If premiums were paid only with a view to accomplish the latter object, the number of competitors in this class, and too many others, would be inconveniently small.

Farm implements and machines formed a large and interesting part of the exhibition. The only implements presenting new features, was one for gathering stones, and another for mowing and gathering clover seed. Their value has not been fully tested, though it is understood they promise well.

Rochester is noted for its extensive implement and seed stores, though it should be matter of deep regret that they are employed in buying and selling implements, instead of manufacturing them in the county. There are some valuable implements made in the city of Rochester, and at Brockport, and it will be fortunate for the prosperity of our county when that branch of our manufacture receives more attention.

The exhibition of fruits, flowers, vegetables, butter, cheese, domestic products, and home manufactures, was held the second day at the Court House. The display was unusually large and fine, even for Monroe county, which claims to stand second to none in the State for fine fruits, vegetables, and flowers. The attendance was unusually large, thus evincing the interest manifested, not only by the farmers, but by their wives and daughters, as well as the residents of our thriving city in these branches of rural economy.

The exhibition of needle-work, embroidery, painting, and other departments of the arts, was creditable to the county and particularly so to the city of Rochester.

The crops for the past year, with us have been very good. The system of cultivation has been so well perfected that our farmers annually reap a rich reward for their well-directed labor. Barnyard manures are the most extensively used. These might be more abundant were better means employed to make and save them. Gypsum is used to some extent. One of the finest beds in the State underlies the southern portion of Monroe county, and forms a profitable trade with our southern neighbors. Plowing in

clover is now considered indispensable in the culture of our staple crop, wheat. This has been good the past year, though in some localities the weevil has appeared, doing some damage. Other crops, including hay, have been good. Potatoes were superior to any year since the prevalence of the "potato disease." We are not advised that strong fertilizers have been used to a great extent. In some instances, near Rochester, guano, to the extent of 300 pounds to the acre, has been applied with good success, giving an increase of ninety bushels per acre. The method of application, was putting a small parcel in the hill, separating the guano from the seed by a little soil. Those thus treated were more successful than where the guano was sown broadcast before planting. Experiments of this character, with different crops, and many fertilizers, should be made under the direction of the different county societies and the State Society.

As a whole, our operations for the past year have been of a highly pleasing and useful character, from which the best results may be anticipated. We enter upon another year with renewed zeal, hoping our efforts will be crowned by accomplishing some permanent good for that best of all causes, the cause of agricultural improvement.

H. C. WHITE, *Secretary.*

MONTGOMERY.

B. P. JOHNSON, *Secretary, &c.*:

The Agricultural society of Montgomery county held its Annual fair and Cattle show in the village of Fonda, on Wednesday and Thursday, the 6th and 7th days of October last. The attendance was supposed to be larger than upon any similar occasion since the formation of our society. The unusual number of farmers, artisans, professional men, and ladies, called together during the two days of the fair, affords a gratifying proof of the increasing desire felt by all classes of our citizens for the promotion of those important objects for which our association was established. The spacious yard adjoining the Court House was used for the exhibition of stock and the more cumbrous articles,

while those of less bulk were displayed in the interior of the building. The show was very creditable, but was not, perhaps, superior to those of some former years. The exhibition of cattle was fair, there being about forty entries made. Some fine animals of the various breeds were noticed, consisting of Durhams, Devons, and natives, but mostly grades. The number of cattle upon the grounds would have been considerably larger had the arrangements for carrying stock upon the railroad been better understood in the western section of the county. Some forty head from that quarter failed to reach the fair grounds, by not having been brought to the railroad in time. But farmers showed a very commendable spirit in bringing out some of their best horses. Sixty-two entries were made. Some of the animals, for symmetry and action, would bear comparison with any bred in the State. The sheep exhibited were very respectable in number and quality. The swine appeared very well, and some good specimens were noticed. The products of the dairy formed quite an interesting feature of the fair. Cheeses of delicious flavor, and butter of golden hue, attested the superior skill of the housewives of Montgomery in this branch of domestic industry. The display of poultry was quite ordinary, both in point of numbers and variety. A very few only, merited and received premiums.

The show of stoves, although rather limited, showed that our manufacturers in this department are not surpassed by those of any other county. The exhibition of domestic manufactures, farm implements, &c., was quite extensive, and attracted much attention. Most of the articles were of real utility, and many of them displayed superior workmanship. The vegetables appeared to excellent advantage, for the collection was large and of all varieties. The fruits had their place, also, in the exhibition. Apples, pears, quinces, grapes, plums, and peaches, were so temptingly displayed that some of them fell a prey to those whose appetites were evidently much stronger than their notions of propriety or honesty.

The great mass of spectators were attracted by, and pleased with that department of the exhibition, under the supervision of the ladies. The display of their handiwork was large and beau-

tiful. Numerous articles, the product of the needle, and the pencil, were truly elegant, and elicited many flattering expressions from the admiring crowd. Delicate flowers, also, arranged in bouquets and tasteful floral ornaments, and green-house plants, occupied quite a conspicuous place in this department.

The plowing match, which took place in the forenoon of the second day, drew out a large number of spectators, and excited much interest. The contest between the several competitors was quite spirited; and their work was so admirably performed that the committee found much difficulty in deciding upon their respective merits. The old men, also, had a special match, in which none were admitted under sixty years of age. The veteran plowmen engaged in the strife with all the ardor of youth.

The afternoon was occupied in announcing the premiums awarded by the various committees, and in the appointment of the following officers of the society for the ensuing year:

For President, James Lansing, Jr., of Fonda. Vice-Presidents, William S. Shuler, of Amsterdam, and John I. Nellis, of St. Johnsville; Secretary, Boyd R. Hudson, of Auriesville; Treasurer, Richard H. Cushney, of Fonda. Executive committee, Simeon Sammons, Peter H. Fonda, John S. Haggart, and James Macintyre, of Fonda, and three directors in each town.

At the meeting of the officers on the 6th inst., premiums were awarded on field crops. There was not much competition. John Bearcraft received the first premium on oats, 69½ bushels on one acre. R. Hudson received the first on Indian corn, 75 bushels having been grown on one acre. The second was awarded to John Bearcraft, for 72 8/3 1/2 bushels off one acre. The crops generally have been very light the past season, owing to the very protracted drought.

The next fair is to be held in the village of Fonda.

All which is respectfully submitted,

RICHARD HUDSON, *President.*

Auriesville, Dec. 28, 1852.

FONDA, *Montgomery Co., Dec.* 7, 1852.

B. P. JOHNSON, *Secretary, &c.:*

Dear Sir—Your circular of the 4th October I now answer as correctly as I can. About a year ago I answered similar inquiries by J. Delafield, Esq., Ex-President of the State Ag. Society, and I now make to you nearly the same answers.

1. The chief products of our county, (they being of a general character,) are corn, oats, wheat, rye, barley, butter, cheese and pork.

2. There is an increase for a few years back in corn, oats, rye, and cheese, and a decrease in barley, butter, wheat, and heavy pork.

3. This and the 2d are best answered by the following

TABLE.

	LAND.—No .of acres.			BARLEY. Bushels.	BUTTER. Pounds.	CHEESE. Pounds.	WHEAT. Bushels.	RYE. Bushels.	CORN. Bushels.	OATS. Bushels.
	Improved.	Unimprov'd.	Total							
In 1845,.....	182,586	67,040	249,654	159,044	1,209,431	909,281	65,177	75,405	172,173	676,404
In 1849,.....	207,513	42 103	249,636	121,850	1,158,189	1,716,580	48,826	125,151	391,974	1,690,889
1849 Increase, ...	24,927	.....	.....	.....	.....	807,299	.....	49,746	219,801	1,014,485
1849 Decrease,...	.....	24,937	.....	37,194	51,242	.....	16,351	.....	.....	.....

4. The other important products are pig-pork, buckwheat, peas beans and broom corn, with a few acres of hops and tobacco, all of which are on the increase. The quantity of heavy pork fattened is on the decrease, but more than made up by the increase in light pig-pork.

5. Answered in the above table.

6. The animal stock numbers about the same for some years back. The breeds of neat cattle most common is the native crossed with the Durhams and Herefords, for the dairy and beef; by the Devons mostly for work cattle; the natives with a slight cross are prefered for the dairy. Our horses are on the increase in size by breeding with the draft or Norman. There are but very few full or foreign blood cattle or horses now owned in the county. Our flocks of sheep are small; a mixed breed between the fine and coarse wooled.

7. As to agricultural or mechanical science, we have comparatively none, nor will one in twenty of our sons have any: they are sent to the district school, there to be taught anything but *terraculture* and just enough of other branches to make them dislike or despise the dirty work of their father's farm; his hard brown hands, patched coat, and wool hat look too vulgar and contemptible for the young gentlemen. I think all this however might be partially remedied by appropriating a *part* of the *taxes* paid by the farmers, to qualify teachers in agricultural science, one to be placed in each or every alternate rural school district.

8. There has been but little attention paid to draining, until, within two or three years, many of our farmers have done a little and are well pleased with the result. The method or art of draining is not yet much understood, but is fast improving.

9. The price of land has increased from twenty to thirty per cent within three years.

10. Our surplus products are sold and delivered, mostly at the railroad or canal, at a very small deduction for carriage South and East.

Above I have answered your queries as correct as I can; a younger and more active person should have been selected; almost my whole life (near three score and ten,) has been occupied in practical agriculture, and but little of it in writing; but if you can cull or *extract* from the above scroll, anything that will be of use in agricultural statistics, I shall be well pleased.

I am, Dear sir, yours truly,

JAMES MACINTYRE.

NIAGARA.

In making the annual report of Niagara county Agricultural Society, I have thought proper to preface it with a brief account of the organization of the county, its location and extent, together with some statistics grounded on the census of 1850, but so modified as to give its present probable condition. The county is not wanting in the elements of celebrity. Lying in the extreme north-west corner of the State, its frontier on the Niagara river and Lake Ontario, has made it the scene of many border conflicts of great historic interest. "The Falls" are, perhaps, unsurpassed by any other natural curiosity in this country for grandeur and sublimity, while the foaming river, rushing madly through the deep gorge from the cataract to the village of Lewiston and there gliding on peacefully to the lake, affords every modification of scenery, from the mountain in a chaos of waters to the lawn and the lake.

Art, too, under the munificent policy of our great State, here presents us with her noblest achievements. The massive chain of locks at Lockport, and the deep cut through the limestone of the "mountain ridge," are triumphs over what seemed insuperable difficulties to the completion of the Erie canal. Although there were only a few hamlets on the Niagara river and around the fort more than a hundred years ago, yet the county, as a whole, is one of the most recently settled in the State; indeed, along the lake towns some portions have scarcely been redeemed

from the primitive forest, so that the wealth of the virgin soil has not yet been exhausted, and in some towns the agricultural products, as dependent upon this primitive fertility, have by no means come up to the maximum yield. This is especially true of some towns lying north of the Ridge road, and a section south of the mountain ridge, bordering on the Tonawanda creek.

For many years after the canal was cut and settlements had been made along its line and on the Ridge road, the country north was undervalued and therefore unsought and unsettled, except very sparsely.

The county is naturally divided into three great plateaux running east and west. The first terrace extends from Lake Ontario to the ridge road, rising so gradually as to seem to be almost a dead level. This plain is about thirty-two miles long and, on an average, about seven miles wide. Overshadowed, as it was, by a vast growth of forest trees rising from marsh and mire, the whole plateaux seemed unfit for cultivation, and was significantly called the Black north; but at the present day this dismal appellation ill befits the country, for in fertility and moral beauty and agricultural wealth it stands unrivalled. It is a beautiful net-work of orchards and glebe, wood-lands and meadows, with fine farm houses and cottages over it all. Systematic draining has redeemed it and made it emphatically a pleasant land.

The second terrace is, on an average, about thirty feet higher than the first, and extends south from the Ridge road to the mountain ridge running nearly across the county from east to west, having an average breadth of about two miles, but diminishing towards the west till the ridge and mountain meet in the eastern part of the town of Lewiston. The upper terrace is about two hundred feet higher than the second at its northern limit, or the mountain, sloping gradually southward to Tonawanda creek, distance about eight miles. The soil of the county is mainly clay and loam, frequently mixed with sand. In fertility it is not excelled by any other portion of western New-York.

Niagara formerly constituted part of Genesee county, from which it was taken in March, 1808; Erie county was subse-

quently taken from this about the year 1821. By this the county was reduced to its present size, containing about 530 square miles divided into twelve towns, though of very unequal areas, some of them being much larger than others.

There are in the county about 194,000 acres improved land, and about 112,000 unimproved. The subjoined table of statistics is believed to be correct. They will give a condensed view of the agricultural products, operations and facilities, and are not wholly devoid of interest as a part of this report:

Population, about	44,000	
Families, do	7,850	
Dwellings, do	7,720	
Horses, do	9,800	
Milch cows, do	9,920	
Working oxen, about	2,810	
Other cattle, do	12,150	
Sheep, do	61,200	
Swine, do	22,450	
Value of live stock,		$1,230,000
Bushels of wheat,	980,000	
oats,	327,000	
Indian corn,	342,000	
peas and beans,	15,750	
barley,	82,500	
buckwheat,	21,300	
potatoes,	171,600	
Orchard products,		$38,500
Pounds of butter,	816,000	
cheese,	73,700	
wool,	172,200	
honey,	12,600	
Bushels of clover seed,	3,730	
flax seed,	325	
Tons of hay,	36,400	
Value of farming implements,		$443,000

Though wheat is the staple crop, it will be seen from the table above that other products of great value are raised here and

quite extensively. I think there is a decided tendency among our farmers to rely less upon wheat (as the weevil is making their appearance in some parts of the county) and more upon other crops for their income than they did five years ago.

Agricultural periodicals are exerting a salutary influence by inducing our farmers to practice rotation in crops and to avail themselves of the great natural laws of good husbandry. They are beginning to think farming a science, and they trust more to system and skill than "luck:" deep plowing and thorough culture are producing their work here. They are becoming more particular also to get the best breeds of stock and the best kinds of fruit. Fruit culture is exciting a good deal of interest in this vicinity; Lake Ontario on the north, with its deep waters, so modifies our climate as to favor this department of farm products. In the spring its chilled waters keep back the buds and bloom some ten days later than in the inland towns, thus preventing the blight of late frosts, while in the fall the great caldron radiates heat and keeps up the temperature, averting the early frosts that would often otherwise prevent maturity. This local influence is perhaps more felt and appreciated in regard to Indian corn than any thing else. The lake bordering on Niagara county is forty miles wide and about six hundred feet deep. The price of farming lands has risen in value from ten to fifteen dollars per acre since 1850.

The annual fair for the year 1852 was held in the village of Wilson, on the south bank of Lake Ontario, on the 6th and 7th days of October, and is universally acknowledged to have outdone any of its predecessors in the convenience of its arrangements, in the interest manifested, in the number of entries made, and in the amount of premiums awarded, which results are mainly to be attributed to the fact that the place of holding the fair is annually changed, the trammel of permanency broken off, by means of which competition is engendered, expenses diminished and the premium list enlarged.

The exhibition of stock was upon the land of Capt. Luther Wilson, and the balance of the show was held in the yard and

basement of the Baptist church. In the line of stock there were 115 entries of horses, 65 of cattle, 128 of sheep, and 22 of hogs. The display of horses and cattle was good; the sheep were superior: those entered by Thomas Scovil, of the town of Cambria, and Sharp & Taylor, of Lockport, were imported and give sufficient evidence that we need not long be dependent upon foreign markets for our finest grades of cloths. Those gentlemen are entitled to much praise for their efforts in introducing such noble specimens. The hogs were quite ordinary. There were 21 entries of butter and 5 of cheese, 84 of domestic manufactures, 8 of grain, 8 of agricultural implements, 7 of root crops, and 142 miscellaneous articles; there was also a large display of flowers and the products of the orchard. On the morning of the second day the multitude repaired to the farm of Major Sheldon to attend the plowing match. There were 14 plows with their teams entered, and the work there done is sufficient evidence that our farmers are fully sensible of the importance of keeping pace with the spirit of the age. Mr. Nathan Gifford, of Wilson, is deserving much credit for introducing the Michigan sod sub-soil plow in this county. It is the general opinion of farmers that once plowing with this plow, then a thorough application of the drag and cultivator, is much better for wheat than the old fashioned way of plowing two or three times.

The report of the commmittee on grain crops shows that premiums were awarded for winter wheat not less than five acres:

First premium, to Enoch Fitch, of Wilson, six acres, twenty-nine rods, 50 bushels per acre.

Second premium, H. McCollum, of Lockport, five acres, forty-four rods, 48 bushels per acre.

Third premium, to Charles Halstead, of Porter, 9 acres, eighty rods, 30 bushels.

For Indian corn not less than three acres:

First premium, to John Pollard, of Wilson, seven acres and fifteen rods, 97 bushels per acre.

Second premium, to Daniel Myers, Porter, three acres, 97½ bushels per acre.

Third premium, to Charles Halstead, Porter, three acres, 76 bushels per acre.

At the conclusion of the plowing match it was expected that we should be favored with an address by the Hon. Gideon Hard, of Albion, Orleans county; but, as that gentleman had sent notice that on account of illness he could not attend, the election of officers was proceeded with; whereupon the following gentlemen were chosen for the ensuing year:

President, John H. Bennet, New Fane; Vice Presidents, Jeptha W. Babcock, Sommerset, Sylvester Parsons, Wilson; Treasurer, James Van Horn, New Fane.

Financial condition of the society is as follows:

Cr. By funds on hand, (balance of 1851,)		$16 59
for membership,		140 44
by subscription,		228 50
admission fees at the fair,		104 91
sale of lumber used at the fair,		4 00
		$194 44
Cash from State Treasurer,		93 00
		$587 44
Dr. By printing bill,	$28 75	
expenses in preparing grounds and building for use of fair,	43 00	
badges,	3 00	
diplomas,	15 00	
charges on box of books,	6 50	
grain and hay used at the fair by competitors,	12 07	
to cards, postage, stationery, &c.,	5 38	
attendance of gates at fair,	4 00	
paid for premiums,	331 81	
Cash in treasurer's hands,	137 90	
		$587 44

In conclusion, I am happy to say that our cause is progressing. Never since the formation of this society has there been so deep an interest manifested in its prosperity; and from the spirit and anxiety evinced by the farmers of our county, we have a good assurance that a spirit of emulation has been awakened that will continue to increase till our annual exhibition will be second to no other county in the State.

MORGAN JOHNSON, *Pres't.*

ONEIDA.

The annual exhibition of the Oneida county Agricultural Society was held at Rome, on the 5th, 6th and 7th days of October, being a later period than usual on account of the State exhibition being held at Utica. Notwithstanding the interest of the people of the county in that exhibition, the county fair was sustained with no abatement of interest or enthusiasm from any former year.

The list of premiums was somewhat extended, and increased in amount to about one thousand dollars, that being a larger sum offered than in any preceding year.

The late fairs have been held alternately at Rome and Utica, those being the only towns in the county at which the people in attendance could well be accommodated; and through the liberality of the citizens of those places the *show grounds* have been enclosed after the manner of the *State fair*, which has aided very materially in augmenting the funds of the society.

An abstract of treasurer's report is herewith appended, which exhibits its financial condition.

Treasurer's Report.

Cash on hand last year,.....	$1,388 82
from members,.....	409 00
from sale of tickets,.....	591 30
from State Treasurer,.....	255 00
	$2,554 72

Paid premiums and expense,.....	$1,531 48
Cash in treasurer's hands,.....	1,023 24
	$2,554 72

The society has adopted the plan of an exhibition of winter fruit at the annual meeting, which adds very much to the interest of the occasion.

Premiums were awarded on *grain* and *root* crops as follows:

Best acre winter wheat, Samuel H. Church, Vernon, 46 $\frac{2}{6}\frac{6}{0}$ bushels; white wheat, which took the first prize as best sample at State fair.

Best acre spring wheat, Cha's W. Eells, Westmoreland, 34 $\frac{2}{6}\frac{3}{0}$ bushels; Tea wheat.

Best acre Indian corn, John Thompson, Augusta, 84$\frac{1}{2}$ bushels.

Best acre potatoes, John Thompson, Augusta, 168 bushels; large pinkeye.

Best quarter acre of carrots, John Thompson, Augusta, 213 bushels.

Best quarter acre ruta baga, Plimet Mattoon, Vienna, 236 $\frac{2}{4}\frac{1}{5}$ bushels.

We also append extracts from the reports of judges on "apples and cheese." That of apples from the pen of Professor Edward North of Hamilton college, and that on cheese, from Alonzo L. Fish, Esq., of Cedarville, Herkimer county; both of those gentlemen being well qualified to discourse to the people of the State upon those subject.

Apples.

The committee on apples have aimed to discharge their trust with discriminating fairness and fidelity. If it should be thought that the claims of any particular sample have been overlooked, an excuse for it will be found in the unusual profusion of apples exhibited. The committee but give echo to the universal sentiment, when they say that such a magnificent display of apples was never before collected in Central New-York. If old Oneida

should ever be called upon to prove herself worthy to be hailed the "Empire county," her intelligent sons will find arguments by the cart load in their prolific orchards.

In order to determine the relative merit of the samples offered for competition, the committee have found it necessary to get to themselves a clear notion of what constitutes a *good apple*, and what ought to be the characteristics of an apple that claims admission to the highest rank.

As with all other fruits, so with the apple, the standard of perfection has rapidly advanced during the last few years. Some varieties, such, for example, as the Red Giliflower, which thirty years ago passed for excellent and first-rate, would now be set aside as indifferent. Skilful fruit-growers have recently brought into notice new and choice kinds, which are fast crowding out of use all such as are in any respect objectionable.

The number of varieties which are intrinsically worthy of cultivation is comparatively small. Among the hundreds of names which figure in the fruit books and on the nursery lists, probably less than two score would be endorsed by intelligent and candid nurserymen as really worthy of cultivation.

The most successful apple growers are those who have confined their attention to a few of the very choicest kinds. This fact is beginning to be felt among leading farmers. In planting new orchards more care is taken now than formerly to select only those kinds which are admitted to be superior, and which will always command good prices in the market.

Old seedling orchards are also undergoing the process of being improved by grafting. It may be that this method of re-juvenating an old seedling orchard is not everywhere understood. Certain it is, that in our own county they have sometimes been wantonly destroyed. A better course is to dig about and manure the trees, give the trunks a through grooming and soaping, shorten in the branches, and engraft with first class varieties. In this way a large harvesting of apples may be reached much sooner

than by the more tedious process of rearing trees taken from a nursery.

Mr. E. B. Lucas, of Clinton, owned a large seedling tree which had lived forty years without pretending to do anything more than to furnish passable food for the swine and the cider mill. He paid twelve shillings to get the trees re-juvenated by grafting. Five years after he harvested from it eighteen bushels of "Golden Sweets," which were readily exchanged for half as many dollars. The same individual has a two acre orchard of rejuvenated trees, which yield an annual profit of one hundred dollars, over and above all the expense of harvesting and marketing. Remove these trees from the land, and it would sell for about $100 an acre So that the apple trees give to the land which they occupy an additional value of $100 an acre.

In testing the quality of an apple, the first question is as to its texture and flavor; is it tender, crisp, juicy, agreeable? Will it answer the manifold uses for which an apple is destined in the kitchen and the parlor? Is it excellent for eating, for baking, for stewing, for drying, for frying? Will it make good pies, pleasant sauce, delicious dumplings, piquant vinegar, exquisite fritters, ambrosial jellies?

Whether the sweet or the sour apple is in its nature the more excellent, would offer a delicate question. It is supposed that the ladies, as a class, prefer sour apples to sweet, owing, probably to some contradictory twist in their make. In apple growing, the tastes of the gentle sex seem to be especially provided for. More acid apples than sweet are raised. Yet for some uses and partialities, the sweet apple is better suited. The proportion of sweet apples brought into market for winter and spring consumption, would appear to be too small. During the spring months, when apples are most highly relished, and when the Baldwin, Swaar, Spitzenburgh and Greening are so generally brought upon the table, good sweet apples are apt to be a scarce luxury. If such varieties as the Ladies' sweeting were more generally cultivated, this want would be supplied.

The second point in a superior apple, is that it be satisfactory as to size and outward appearance. It will be free from cracks

and deformities. It will have a smooth and healthy complexion. Like the fruit which ensnared our first mother, it will "solicit the eye" with "downy smile," and "smell ambrosial." A small apple may be rich in quality, but for ordinary uses, its littleness is not in its favor. There is more waste in the using of small apples, and less profit in the raising of them. The most desirable size for an apple, all things considered, is that of the Lowell and Porter. Monstrous apples, like the Gloria Mundi and Detroit Red, are apt to be fragile and perishable. They are more liable to decay at the core, or to be bruised in gathering and packing. It is well known that apples grow much larger on the rich bottoms of the west than in Oneida; yet the western apples are less positive in their flavor, less firm in their tissue, and less popular in the eastern markets.

The third point of a first rate apple is that it be a productive sort; that it be one of a variety which yields large crops. The profits of an orchard will depend very much on this point. An acre planted with Baldwins, Greenings and Belle-et Bonnes might yield twice as many bushels as an acre planted with Spitzenburgh. The Baldwin wants no more of soil, or sun, or clime, or care than the Spitzenburgh. It is naturally more prolific; is equally fair, palatable, and saleable, and is therefore to be preferred

The fourth test of a first-class apple, if of one of the winter varieties, has reference to its *keeping* qualities.

Apples which remain longest in perfection, other things being equal, are most to be desired both for seller and buyer. The Northern Spy is a better keeping apple than the R. Island Greening. The Roxbury Russet will keep longer than the Baldwin, yet as the former is not mature for the table until spring, the latter must be allowed the preference.

Apples which keep until midsummer are more esteemed as curiosities than utilities. After strawberries and green peas make their appearance, a shrivelled-up Russet is no great temptation. One wonders over it as he would over a mummy, without longing to taste it.

The fifth test of the first-class apple is that it grows well in all soils and situations. It has been objected to the Newtown Pippin, that nobody can raise it in perfection but Mr. Pell and his neighbors on the Hudson river. The Swaar and Vandervere have but this fault, that in heavy cold soils their highest beauty and flavor are never developed. Such varieties have a high local value, and in favorable circumstances will pass for first-rate.

Extract from Cheese Report.

The committee are aware of the embarrassment they labor under for want of a standard by which to compare the relative merits of the different samples of cheese exhibited.

To be governed by our own peculiar taste or appetite for such cheese as we may be accustomed to eat and acquire a relish for, might do great injustice to the zealous competitor, by awarding superior merit to such a sample of cheese as would at an earlier or laier period be deemed unworthy of award.

As but a small portion of the cheese made can reach the consumer at a specific age, or stage of maturity, it is deemed unsafe to recommend a character of cheese as a model dairy, containing a large constituency of fermenting properties, such as excess of moisture, air in cavities, the presence of too much rennet, which should have been worked off with the whey, &c., which are destined to generate an unpleasant flavor, if kept beyond a certain stage of maturity.

We therefore adopt, as a standard of superior excellence, a cheese of compact and buttery texture, free from holes within to contain fetid air and vapor, with a smooth firm rind, impervious to external influences, with sufficient salt for a pleasant relish and to preserve it untainted.

The committee do not propose to dictate a special or invariable rule to be practised alike, in all seasons of the year, or in different localities, in the manufacture of cheese; but would advise a strict observance of certain leading principles, such as heating all parts of the milk alike before setting with rennet; setting at

a temperature not exceeding ninety degreees (Fahrenheit) in cool weather, or from eighty to eighty-six in warm weather, breaking curd thoroughly and fine before raising heat to scald, raising heat moderately and uniformly through the whole mass at the same time, breaking curd fine and even, so that all will cook alike and *enough*, without a degree of heat much above the temperature of the blood; holding the maximum of heat till the curd is thoroughly cooked or welded, getting whey thoroughly out of curd before applying salt, while the curd is warm and of a temper to take, so that it will not be rinsed away by pressing out the remaining whey, the use of sharp and sweet rennet.

It is a fact well known by the close observer, that to salt or cool curd immediately, suppresses the cohering or welding tendency introduced and carried on by a combined action of heat and rennet. It is essential, therefore, that the agents first used should finish their work before cooling or salting, as salt is last used as a controlling agent. The more thoroughly the rennet is allowed to do its work, with the aid of moderate and uniform heat, the less danger of salt holding in solution an excess of moisture, to save and prevent a perfect coherence.

The great desideratum in cheese making, is to so extricate the fluid properties of the milk that the curd will cheese and form as near a solid as possible, and still hold in solution moisture enough to make a soft buttery texture, which is arrived at only by an uniformity of moderate heat and pressure in working the curd, and applying an appropriate amount of salt, at a particular welding temper of the curd.

After adding salt enough to make the cheese palatable, the progress of fermentation necessary to follow, should be regulated by the temperature of the curing room. As curing cheese upon the shelf is a very essential and critical part of cheese dairying, the committee feel that they cannot too strongly urge upon dairymen the necessity of providing themselves with curing rooms, to suit the temperature to the constitution and character of their cheese, and a more perfect understanding between the maker and purchaser as to a particular character of cheese required to meet the demand, as cheese

best adapted to fall or winter trade requires different treatment in manufacturing and curing, from such as are to be consumed at an early age.

A. L. FISH, Cedarville, Herkimer county,
WILLIAM BRISTOL, Utica,
BELA PARDEE, Vernon,
Committee.

PRODUCTS OF THE COUNTY.

The great agricultural product of Oneida county is that of grass, the greater part of which is converted into butter and cheese. Sheep husbandry has been fast giving way for the last five years to the business of dairying, until the produce of butter and cheese in the county has become immense, and constitutes by far the greatest bulk of sales of agricultural products.

Farmers generally dispose of their dairy products at their own homes, to dealers in those articles, with a condition to deliver at some convenient point on the canal or railroad. There was a great diminution of the product the past year, owing to the severe and long-continued drought, which has been the immediate cause of prices ranging much higher than usual; and yet the farmers have not realized as much in the aggregate for their butter and cheese the past year, as on some previous years, with a less price and full yield.

The cows generally used in the county are, doubtless, a mixture of all breeds, with no particular traits of any, which are mostly denominated *native cattle.* Although we have the pure-bred Durhams and Devons in small numbers, together with many of their grades, and valued highly, which command large prices; and yet the great indifference among farmers to improve the general appearance of their cattle, as well as as to breed in the intrinsic qualities, leaves us with but little credit for any improvement in that important branch of agriculture. There seems to be a prevailing difference of opinion with farmers generally, with reference to the best cows for the dairy, although all agree that the cow giving the best and greatest quantity of milk is the one sought for.

It is a matter of fact that no race or breed of cattle are all invariably answering the expectations of their partial breeders, or even approximating such results, as are lauded by their particular favorites. But that there is extraordinary milking qualities developed in all the various breeds, with some particular animals, is also an undeniable fact. And hence, as we are not to look for perfection in any of the breeds, it would well become the farmers of the State to select, breed, and compare their intrinsic worth for the dairy, until the fact can be established with the utmost exactitude, without a *think so*, or *guess so*. The State Society have long since offered premiums which would seem to have induced people to have made sufficient trials and experiments to have established a *guiding star*.

In coming to the point, the writer is of the belief that by taking our best, well-formed grade, or native cows, which develope great milking qualities (and there are many such), and engrafting the beauties of the Devon upon them by a careful selection of a pure bred bull, which originated from a good milking stock, and we have the most desirable cattle that can be obtained for all uses, for the climate of New-York.

Corn is usually grown upon most all farms in the county, one half of which is consumed upon the farm for the fattening of pork, in connexion with the wash of the dairy, while the other portion of the corn usually finds its way to the distillery. The crop of the past year was diminished by the drought.

Oats are universally raised by most farmers throughout the county, but those late sown were very materially injured by the drought and rust; and on account of the scarcity of fodder, the price of both oats and straw rules high.

Barley is raised extensively in a few of the southern towns, and the crop the past year an ordinary one, the price of which has ranged at about five shillings at the canal, destined for the eastern markets.

Wheat is raised in some of the southern towns for home consumption, and with good success. Oneida was awarded the prize for the best sample of wheat, at the Utica fair, which was doubtless equal to any from any clime.

Hon. George Geddes, who delivered the annual address, has perhaps truly interpreted our elevation and geological condition in regard to the production of our agricultural products. He says :—"Comparing Oneida with Niagara county, by an examination of your soils and your surfaces, a man of agricultural science would at once determine that Niagara must chiefly raise wheat, and Oneida grass and the spring grains.

"An occasional large crop of wheat may be produced in Oneida, but generally it will not be the most profitable crop. Here it is cheese, butter, wool, and meat, and but little wheat, and in Niagara it is wheat, and but little else than wheat. Oneida and Niagara illustrate these advantages, and the canals and railroads combine them."

Hops are produced, doubtless, to the extent of about half a million of pounds in the south part of the county, which has proved a money-making business to those engaged in their culture for the past three years, as large prices have been obtained. But like all the lands of gold, too many diggers are engaging in the business to realize their anticipations.

Teazles are also raised to supply the neighboring factories, and considerable quantities are sent to the Eastern States.

Fruit. Oneida has long been noted for its fine apples, which are grown to perfection, and in great abundance, and thousands of barrels are annually sent to the eastern markets. Much increased attention is now paid to raising of all kinds of fruit, particularly that of pears, and in some localities peaches.

The late introduction of dwarf pear trees has enkindled new zeal in the cultivation of this delicious fruit.

The old doctrine that those who raised *pears* raised them for *heirs*, has exploded, as may now annually be seen, many an old grey-head, evincing as much zeal with his dwarf pear trees, as though in pursuit of a new wife, with an evident assurance hat he could reap quick returns from the fruits of his labor.

The Oneida county Agricultural Society has thus far had a successful career, both in interest and usefulness, and the last exhibition numbered the twelfth since its organization.

Officers for the present year are as follows:

President—Roland S. Doty, Rome; Vice-Presidents, George Bristol, Kirkland; Thos. R. Walker, Utica; Executive committee, John Thompson, Augusta; Thomas D. Penfield, Camden; Daniel G. Drummond, Lee; H. N. Carey, Marcy; Henry Rhodes, Trenton; J. W. Jones, Utica; George Benedict, Verona; Jairus Knapp, Westmoreland; James H. Sherrill, New Hartford; Treasurer, Henry R. Hart, Whitestown; Secretary, Levi T. Marshall, Vernon.

L. T. MARSHALL, *Secretary.*

EXTRACTS FROM THE ADDRESS OF HON. GEORGE GEDDES.

I have tried to show that the State of New-York (and no part of it more than Oneida) stands first in position, in soil, in means of intercommunication, in climate and in men; and for all these reasons has higher hopes of the future than any other part of this new world; and if so, of this new world, then of all the world.

In 1783, the Father of our Country, impressed with the advantages of this very spot, in a letter to the Marquis of Castellaux, said: "Taking a comprehensive view of the vast inland navigation of the United States, I could but be struck with the immense diffusion and importance of it, and with the goodness of that Providence who had dealt his favors to us with so profuse a hand. Would to God that we may have wisdom to improve them." The prayer has been granted, and your vast natural advantages have been improved with a vigor and energy never equalled.

This is the age of improvement, and everywhere the rapidity of our progress is a subject of congratulation. The great inventions in which all classes of men are directly interested are fully appreciated; but those that pertain exclusively to our own calling being of a more humble character, in this age of steam and electricity, are apt to be passed by with less consideration than they really deserve.

Let us look back a few years, and see what improvements we have made, in our business of feeding, and furnishing the materials for clothing all mankind.

This generation has seen the introduction of the fanning mill, the grain cradle, the iron plow, the thrashing machine, the horse rake; and now is being introduced into general use a machine that cuts by the power of horses, hay and grain; and from this year may be dated a revolution in the practical operations of the harvest and the hay fields. Machines to sow grain with mathematical accuracy, either broadcast or in drills, and drawn by animals, are hereafter to relieve us from one of the most difficult of our labors.

It was my fortune to be a member of the committee of the State society that this season gave these machines a full trial, and from what I learned in near two weeks devoted to the subject, I say with the fullest confidence that the grain cradle and grass scythes have had their day, and hereafter will only be required for very small farmers, and for cutting roads for the reaper and mower. More than this from calculations made by the committee, it was determined that the mower alone would save in a single year, when fully introduced in the United States, three and a half millions of dollars The change from the toil of swinging the grass scythe or the grain cradle from morning till night, through the long and hot days of July and August, to riding upon a comfortable seat upon a sulky drawn by horses, whose government is all that occupies the master's thoughts or muscles, is very great; and when we add to this that the work is much better done than it can be by hand, we have some of the elements that are necessary to understand the value of this machine.

The change from carrying a bag of grain across mellow soils, finely pulverised for seed, and scattering it broadcast, to riding in a comfortable arm chair on springs, is very agreeable, as I know by some personal experience of both ways; and when we add to this that the easy way is not only much the best way, as regards the quality of the work, but that we can do about twice the amount in a given time, we see the value of the broadcast sowing machine.

These, and many other, though perhaps minor improvements in our tools, have added greatly to the value of our farms; and to the profits of farming; and to the value of labor; and by giving us an impulse, all the world has been moved; for as a part of the body politic, we stand to the remainder in the position that the driving wheel maintains in every machine. Let it not be forgotten that the only sources of wealth are labor and land, and the farmer represents both these elements, either of which is useless without the other. Land, until man toils upon it, is valueless. Labor, without the soil to till and sustain it, would die; and such is the order of Providence, that to feed, and furnish the material to clothe man, it is necessary that by far the greatest part of men should apply their labor directly to the cultivation of the soil. So true and resistless is this necessity that there never was in the world, and perhaps never will be, a surplus of agricultural productions, if the whole world be taken into the account; but there constantly occurs times of scarcity, when large districts suffer for want.

With every improvement in agriculture, human woe is alleviated, and the poor are made more comfortable; for by improvement in raising food, labor is rendered more valuable, and he who has only labor to sell is thereby made rich.

Ours is the art that lays at the bottom of all arts; and with our progress, civilization progresses. If we were to retrograde or to become idle, want and famine would visit the doors of the rich. In us are the sources of every luxury, and of every elegance that adorns the dwellings of the refined and affluent. Is not such an occupation honorable?

But it is not a profession that leads men into public life, as politics are now managed; generally it has the contrary effect. The peaceful and quiet life upon the farm does not fit men for the intrigues of politics; and generally when a farmer finds himself transformed by his neighbors into an office-holder, he soon retires disgusted from a field where victory can only be obtained by somebody's sore defeat, and very often at the price of his own self-respect.

Far more agreeable, and in every way desirable, are the victories that we gain upon our farms; for in each victory our neighbors participate, and no one suffers the pangs of defeat. If by any means we can discover a process by which we can make "two blades of grass grow where but one grew before," how soon we communicate this knowledge to the public! Thus there grows up in the mind feelings of high honor; and the most successful man among us becomes the most beloved. Few farmers take out patents to secure the monopoly of any invention, though most of the improvements in agricultural implements are either made directly or at the suggestion of farmers.

It would be but reasonable to suppose that a profession like agriculture, which is at once the "most useful, most healthful and most natural employment of man," would require great skill and knowledge to its successful pursuit. So it is in fact; and that a highly cultivated mind in every branch of knowledge can prove its superiority here, is shown by abundant examples of men, who, having devoted many years to what are called the learned professions, have afterwards turned their attention to farming, and become models worthy of imitation; not because they understood the art of holding the plow as well as men who had never done anything else, but because they have brought science to direct their labors.

Why should not a farmer receive a complete education in literature and science, as well as in the art of farming?

Before men study law or divinity, or physic, they go to college, or to some high school, and then having by a general course of study expanded their minds, and stored up a large supply of facts, they begin the study of what may be properly called the *art* they are to follow for life.

This notion, that farmers require an education in something besides the mere use of tools on the farm, is now taking deep root in the public mind; and Governors are beginning to talk of an *Agricultural College* in their messages. There is a growing feeling, that the present institutions of learning, upon which the State has lavished millions of money, are entirely inadequate to

meet the wants of by far the greatest part of the people. What can a man learn in them that will fit him for either the farm or the shop?

President Wayland, who has had a very large experience as an educator, and whose works are now becoming text books all over the country, and doing us, as a nation, great honor in Europe, has said that West Point has alone done more for the country in educating engineers, and has made more canals and railroads than all the colleges we have ever had. The course of study in college was marked out for one particular class of men, men who were to spend their lives in *talk*? To that end they teach language for nearly the whole course. At West Point the studies are arranged with entirely a different object. Men are there educated for *deeds*. And allow me to add to president Wayland's remark, that West Point conquered Mexico.

The time is coming, perhaps has come, to revise our system of education, and if it can be done in the name of an Agricultural College, let it be so. But if our profession is to be connected with any experiment in reforming our mode of educating, let us as farmers have something to say about the manner in which it is to be made. It will be remembered that recently a commission was appointed by the Governor to report a plan for an Agricultural College, and that no action was taken by the Legislature in favor of carrying the plan reported into execution. The reason, in my opinion, that nothing grew out of this report, was that the commission entirely misconceived the whole question. Had the object been to educate farriers, the plan would have been quite good; but the farmers of the Legislature felt that something higher than the art of doctoring horses and cows must be reached, if their names were to be used. The standard was too low and too great an effort was made to have a college that would cost the State but little, while it appears to me that the resources of the State are ample to give us what we really want.

Up to a certain point, all professions require the same preparatory study; and in proposing a reform in the course of liberal education, there is no necessity of disturbing either our excellent common schools, or our academies. These should continue to instruct in the rudiments and in many of the higher branches.

It is the college that is unsuited to this day of the world's progress, and that requires changing. The feeling that a change is demanded is so strong, that it has become difficult to procure the usual appropriations from the Legislature, not because high education is held as of little value, but because of the settled conviction that our colleges are not adapted to the times. To meet this whole matter, let the State purchase in some central place, of easy access by railroad, and away from the immediate vicinity of any large town, from five hundred to a thousand acres of land, embraced in the greatest possible variety of soil, having upon it water and stone quarries within convenient distance, suitable for building purposes. Erect thereon the neces-ary buildings to accommodate a thousand students, with lecture rooms, boarding halls, and all that would be necessary to their living independent of the hotels and villages. Houses for the officers of course would be required. Give the government of this institution to a Board of Trustees, appointed by the Regents of the University, or some other competent body, that would keep party politics out of view.

To carry on such an institution it would be necessary to have a President, who has a mind capable of grasping the whole subject, and the ability to direct every thing. There should be established professorships of civil and mechanical Engineering, of Mathematics, of Chemistry, of Geology and Mineralogy, of Botany, of Anatomy and Surgery, of Ancient Languages and History, of the Modern European Languages, of Practical Agriculture, and as many more as experience shall determine to be necessary. Probably not less than twelve, including the president. And these should all be paid by annual appropriations from the State, and to command a high order of talent, it is probable that an average salary of $2,000 would be necessary. These professors giving their instruction in large and properly constructed rooms, may as well address large audiences as small, and by a judicious arrangement of duties, as many hours of the student's time as can be profitably spent in the lecture room would be fully employed, and still leave three or four hours that demand some employment for the body for its health, and for the proper growth of the intellectual powers. These hours in many

great institutions are spent in dissipation. West Point fills them up with military duties. I propose to fill them up in the labors of the farm, and in the management of the detail of the fields, the bars, the stables and the shops.

The highest order of talents in teachers can only be procured by large institutions, and such only can afford extensive libraries and philosophical apparatus, so it appears to me necessary, to have colleges on a large scale, when we have any. We now have in the country, at least one hundred small ones. But the objection made to large numbers of students being brought together is, that it is apt to lead to dissipation. This is only true where the time of the student out of study hours, is left at his own disposal. I propose by the farm to keep him busy summer and winter. In the summer, in the field, in the winter, in testing by actual measurement of food and results, the proper mode of wintering domestic animals, and the value of the various breeds. Keep them busy in solving the many questions that now perplex us farmers, and which we cannot solve for ourselves. Not one of us can tell which is the best breed of cattle with certainty, for the reason that not one of us is able to test and prove by a sufficient number of experiments the disputed points. We can guess and that is all we do.

All the cost of such an institution would be paid back to the State abundantly, by the solution of these questions, and I am confident, that without an agricultural school and experimental farm, that shall be conducted, not for profit, but for the spread of information, we shall continue to go on in the dark upon many points, from our inability to solve the doubts that hang around them.

I have before asked the question whether the profession of agriculture was not an honorable one, and I have tried to show that whether we consider its objects, the number of people engaged in it, or the knowledge necessary to its successful pursuit, that in each of these views it is deserving of all honor. Conscious of this, public men on certain occasions do pay it honor, and court our favor as they would did they really feel the force of all they

say, but the very fact of their saying what they do, at the times they take to say it, suggests a doubt of their sincerity. If they are not sincere, and if it is true that we do not exert that influence in the world that belongs to our numbers, and to our calling, it certainly is because, we as a class have not brought to our business that liberal education that has very justly been held as necessary to other professions.

When a farmer has liberally educated a son, he has too often gone from us, to seek in more exciting scenes for that success in life, that perhaps he thought came too slowly to the farmer, and most farmers themselves estimate at much more than their real value the rewards that occasionally attend upon other occupations, and we are apt to forget the value of the enjoyments that attend upon our homes away from the bustle of city life.

Let us carefully estimate all our advantages and bring up our sons to honor our calling, and having given them that education necessary to its successful pursuit, let us hope to make good farmers of them.

The only aristocracy there is, or can be in this country, is an aristocracy of knowledge. Knowledge is power, and he who owns knowledge, will exercise power.

Every revolution in the old world passing through blood, ends where it began, the only change being to rivet more strongly the chains that bind the masses in servitude to the few. Every railroad and every telegraph is an engine of oppression there, furnishing the means of instantaneous knowledge to the government of every popular movement, and the means of concentrating armies to arrest them before they become formidable. Here railroads and telegraphs, are the promoters of the interests of the million, for they are owned and managed by the people. In this new world man is to be regenerated politically, by the spread of knowledge, and thereby the diffusion of power. We farmers constitute by far the greatest part of the people, and we must become learned and wise, for in our hands are the destinies of the country.

If I have succeeded in stimulating the members of this society in their efforts to advance the interests of the public, by advancing the interests of the farmer, then has the object of my coming been accomplished.

ONONDAGA.

The annual fair of the Onondaga county Agricultural Society was held at Syracuse on Wednesday and Thursday the 22d and 23d days of September, 1852.

The exhibition of live stock, farm implements, &c., was upon the grounds of Larned & Hutchinson, in the south part of the city, and that of fancy articles, fruits, flowers, domestic manufactures, &c., &c., was at the new, spacious and elegant Wieting hall in the center of the city. Though this hall is estimated to hold three thousand people, yet at times it was filled.

The whole exhibition surpassed that of any previous year. The society had greatly increased the variety and amount of its premiums, thereby offering additional inducements both for exhibition an . attendance.

The society also adopted the plan of charging a shilling admission to all who were not members. This added five hundred dollars to the receipts of the treasurer. The total amount of monies received was about one thousand dollars, all of which was absorbed by the expenses and premiums of the society.

The annual address was delivered by the Hon. Horace Greely, of the city of New-York, and it was listened to with the greatest satisfaction. It was replete with good practical common sense, and the regret was universal that owing to its extempore form of delivery no copy of it could or has been obtained for publication.

The following persons were elected officers of the society for the ensuing year:

President, David S. Earll, of Salina; 1st Vice-president, Caleb Brown, of Elbridge; 2d vice-president, Mars Nearing, of Salina; Treasurer, James S. Davis, of Syracuse; Corresponding secretary, Davis Cossit, Onondaga; Recording secretary, H. D. Didama, of Salina.

The annual meeting for allotting premiums on farm crops was held at Brintnall's hotel, in the city of Syracuse, on the 18th of January, 1853. There was an unusual amount of competition, and premiums were awarded on a large variety of crops, statistics of some of which are herewith appended:

Best acre of Barley,	58 bush.,	Thos. Danforth,	Lafayette.
" Oats,	82 "	T. C. Pomeroy,	Onondaga.
" Corn,	88 "	A. H. Allen,	Pompey.
" Broom corn,	875 lbs.,	A. H. Allen,	"
" *Flax,	2,382 "	Ira Bishop,	Marcellus.
" Flaxseed,	18 bush.,	"	"
" Carrots,	965 "	Luther Baker,	Lafayette.
Best half acre Hops,	913 lbs.,	Marshall Keith,	Pompey.

Five delegates were appointed to a State convention, should one be called, on the subject of an Agricultural school, viz.:

David S. Earll, Seth Hutchinson, William Fuller, James M. Ellis, and Mars Nearing.

The county society is now more flourishing than at any former period of its existence. It has many steadfast friends scattered over the county, who are willing to help it both by word and deed. Its beneficial influence is felt, and though it falls far short of what we hope it yet may become, still the good already accomplished by it is not easily susceptible of calculation.

Enclosed with this I send you the proceedings of the winter meeting of our society, accompanied by a communication from L. W. Hall, Esq., late treasurer of the society to the Executive committee.

SETH HUTCHINSON, *President.*

* In the straw.

Treasurer's Report.

To the Executive Committee of the Onondaga County Agricultural Society:

In resigning the office of treasurer of this society, which I have held for the past five years, there are a few suggestions, the result of that length of experience, which I wish to submit to your consideration. And in the first place allow me to congratulate the society upon the pecuniary prosperity which has attended its operations. Five years ago the annual receipts were comparatively small, and the society was obliged to exercise great caution lest its annual expenses and list of premiums should exhaust its treasury, and render it unable to fulfil its plighted engagements. Aware that in our society, as well as in every business transaction in this world, abundant pecuniary means were requisite, I took early occasion to impress upon the executive committee the importance of increased receipts, that we might be able to offer greater inducements; and prominent among the means urged for that purpose was the adoption of the system of charging an *admission fee* to the exhibitions of the society to all persons not members thereof. Those of you who have been connected for years with the society will remember the strenuous opposition made to this innovation by some of our friends.

They predicted that it would bring down ruin upon our operations and create general dissatisfaction. But it was evident that the funds of the society must be increased, and, as no one had any better plan to offer, the ex committee, by a small majority, ordered the adoption of the present system. Time has shown the wisdom of so doing. The receipts at the door of Wieting hall last September were upwards of five hundred dollars from this source of shilling admission tickets alone. The society now pays annually five hundred and fifty dollars more in premiums than it did five years ago, and I could recommend at this time a still further increase in the amount of our list of premiums.

But there is one thing that is highly discreditable to the farmers of this county, and that is the fact, that out of its six thousand

farmers only one hundred and forty of them became members of the society the first year, being an average of only seven to a town. The residue of memberships were made up of mechanics, merchants and others not directly interested in agriculture. This is a burning shame to the society or to the farmers of our county, and one that requires immediate reformation. We hear a great deal said by politicians about the honest, intelligent, incorruptible yeomanry, and other high-sounding phrases, especially as the day of election draws near. As I am no politician, or at least office-seeker, I can afford and am willing to tell you the truth, which is, that in my opinion too large a number of our farmers are utterly unqualified by their prejudices, their education, their habits of thought, their excessive narrow-mindedness to appreciate the advantages of being liberal in all things. They are illiberal to their stock in stinting their amount of food, illiberal to their broad acres in denying them abundance of fertilizing manure, illiberal to their families in not laying before them the fullness of the fountains of agricultural and general knowledge, illiberal to themselves by shutting themselves out of agricultural societies and other institutions adapted for their own advancement, illiberal to their own souls in not expanding them into some geniality of goodness and greatness. I speak plainly, but facts and observation warrant it, and I often rejoice that some of these men do not cause the sun to shine or rain to fall, for if they did, none but their own limited possessions would receive the warmth of the one and the fructifying power of the other. There is no *esprit du corps* among farmers. Merchants band together for their common good, mechanics do the same. Professional men have their associations; in fact, every class thinks of helping themselves by helping each other, but the farmers. But to all this there are highly honorable exceptions. Scattered over our county are intelligent, upright farmers, who have succeeded in their own case in making their calling honorable, and devote freely of their own time in the laudable desire of assisting their fellows. Some of them attend punctually the meetings of this society, others contribute to its annual exhibitions, not caring whether a premium will fall to their lot;

others make themselves members, even when unable to contribute anything to the exhibitions; and there are a few that, ever since I have been connected with the society, have carefully forwarded the amount of their annual membership, saying they could not attend but wished to keep up the society. So long as such men live there is no danger that the Onondaga Agricultural Society will die out; but I stand up this day and plead with the farmers of this county to come up as one man and help those comparatively few individuals. Your interests are one, your efforts should be one, and last of all, your ungenerous sneers at those of your number who are trying to do you a service can well be spared.

Since we last met together I have had the pleasure of witnessing the annual fairs of Columbia county, at Kinderhook; of Hampden county, Mass., at Springfield; of Hartford, Conn., at Hartford, and the fair of the American Institute. From them I learned many valuable things which I shall take the liberty to recommend to my successor for his adoption in promoting the best interests of the society. I also learned that our exhibitions were in many important respects greatly inferior. We especially lack in the display of vegetables, and though we had more of an exhibition this year in that line than at any previous time, still our display was not one-tenth of what I saw at Springfield and at Hartford. This should not be so. Allow me to recommend quite an increased amount in the variety and extent of premiums in that department.

Our exhibitions compared with those I saw are quite too brief. While it may not be advisable to exhibit live stock but one day, yet the display of mechanical and manufactured goods, of fruits, flowers and vegetables, and of other articles should be for two days and a half. Increased receipts by this plan will warrant greater premiums.

The whole list of premiums needs another revision. Though greatly improved from what it was, it is still susceptible of further improvement.

I now tender to you my resignation as treasurer of this society. I will leave it with its debts paid up and a moderate surplus in my hands, to pass over to my successor. I trust I shall never be unmindful of the many tokens of sympathy and regard received at your hands, and offer as a poor return therefor the assurance, that in all the subsequent doings of this society I shall feel a great interest, and will cheerfully contribute my share of endeavor to make it what it should be.

L. W HALL.

ONTARIO.

East Bloomfield, Feb. 23d, 1853.

B. P. Johnson, Esq.:

Dear Sir—Yours of the 22d inst. is at hand, asking for returns of our county society for 1852, and lists of officers, &c., for 1853. I sent you, on the 2d inst., the list of officers and partial report of transactions, which, it appears, you have not received.

The following officers were elected for the ensuing year:

James L. Monier, of Naples, President; Henry Howe, of Canandaigua, Corresponding secretary; Wm. H. Lamport, of Gorham, Recording secretary; F. Murray, of Canandaigua, Treasurer.

I am unable to give you much of a report, as the papers have gone into the hands of the secretary, Wm. H. Lamport.

Enclosed I send you a printed list of awards at the fall meeting and a short notice of the winter meeting.

Yours, with great respect,

E. M. BRADLEY.

Ontario Co. Agricultural Society—Winter Meeting.

The meeting of this society on Tuesday was spirited, and unusually well attended. It was unanimously decided to hold the next annual fair and exhibition in that village or town which

should contribute most generously to the funds of the society, and to ask the town committees from the towns of Bloomfield, Phelps, Seneca and Canandaigua (and any other town which may desire to compete for this privilege) to be ready to report at the next meeting, on Tuesday, February, 22d, what their respective towns will do to secure the benefit thus offered them.

ORANGE.

To the Executive Committee of the New-York State Agricultural Society:

The undersigned has the honor to report, on behalf of the Orange Co. Agricultural Society, that said society held its annual fair and cattle show at Middletown, on the 29th and 30th days of September last; that they had provided themselves with a spacious tent for their accommodation, under which a large assortment of agricultural productions and articles of domestic manufacture were conveniently exhibited. The amount of voluntary subscription was $371. The number of entries for competition and of premiums awarded were as follows:

	Entries.	Premiums.
Horses,	39	21
Neat cattle,	76	28
Sheep,	26	11
Swine,	29	7
Agricultural products,	120	26
" implements,	26	10
Butter,	14	4
Household manufactures,	21	14
Fruits and flowers,	72	5
Miscellaneous,	30	18

The exhibition of stock animals was universally good, and the quality and variety of all other animals and products was highly creditable, in fact, the general exhibition, the more than usually numerous attendance of the citizens of the county, and the increased amount contributed give evidence of an improved state

of feeling in favor of the objects of the society. Owing to a severe drought at the time, the competition for the plowing match was not very spirited. Only three entries were made, two only of whom did their work in the best style, one-fourth of an acre in seventy-five minutes.

The annual address was delivered by Daniel C. Moffatt, Esq., of Goshen, an effort eminently fraught with sound and patriotic views, after the delivery of which, the society elected the following named gentlemen, officers for the ensuing year and adjourned:

President, John J. Heard, Goshen; Recording secretary, Charles H. Winfield; Corresponding secretary, Hamilton Morrison, Montgomery; Treasurer, William L. Beakes, Goshen: Executive committee, John C. Wallace, Goshen; Alden Goldsmith, Bloominggrove; Augustus Thompson, Crawford; Edward L. Welling, Warwick; Archibald Beyea, Goshen.

ISRAEL H. WICKHAM.

President.

Middletown, Dec. 29, 1853.

ORLEANS.

B. P. Johnson, Esq., *Sec'y:*

Dear Sir—Your circular, bearing date October 6, of this current year, and propounding certain questions in regard to the agriculture and agricultural productions of this county was duly received. As I in part anticipated the questions by my communication of last year it will be unnecessary for me to give a detailed answer to all the questions proposed.

Wheat, our staple crop is much smaller this year than usual This is in part owing to dryness of the ground at seed time, in part to the severity of the winter, and furthermore, to the farmers relying upon the use of machines (good in themselves) newly introduced, to the neglect of thorough and seasonable cultivation.

The wheat-worm, or midge, has this year made its appearance among us, but has not been destructive to any great extent. By

some it is regarded with alarm, by others, who saw it some eight or ten years ago, it is expected to disappear. The present appearance of the crop gives us encouragement to hope that it will be in advance of the worm at the season for its operations, as it never looked finer.

Corn and beans have been pretty extensively raised this year, and as the season has been quite warm, they have done well. From 15 to 25 bushels of beans per acre have been raised, and from 30 to 60 bushels of corn. Potatoes are also an excellent crop; and we hear but little about the rot.

We have a variety of breeds of horses from the Morgan to the Sampson, which are variously preferred, according to the use for which they are wanted; but the horse of all work is the favorite with the farmer.

Of horned stock, we have the native and the Devonshire and Durham of every grade, and a really good animal of either kind is considered good enough. Sheep are generally considered as the best stock to be kept on a wheat-growing farm. There are a few flocks of the Leceister breed in the county, but most of our sheep are full blood or grade merinos. The French merinos are quite favorably regarded.

The Erie canal and Rochester and Niagara Falls railroad both pass through our county, and as we have Lake Ontario on our northern border, there is no farmer in the county who cannot go to market aud return home the same day, while the majority can go twice, or more.

The crop of wheat for 1851 was mostly sold at from 81 to 87 cents per bushel. The crop for the year 1852 has the greater part of it been sold at from 87 to 84 cents. This is a low price compared with the price of butter, beef, pork, and wool; and should the present relative value of the above articles remain as it is, it must tend to the production of articles of greatest profit and to the neglect of what has been our staple article.

Our lands have appreciated in value twenty per cent within the last five years, which is in part owing to the general improvements in the county, and to substantial betterments on the farms them-

selves, and also to the causes which have made every other species of property (at least nominally,) to appreciate. Our annual fair was held on the 23d and 24th days of September, with its usual interest; Oliver Barber of Gaines, was elected President for the year 1853, also a vice president for each of the nine towns in the county, John G. Lawyer was re-elected Recording secretary, and John H. White, Corresponding secretary.

Balance on hand at the commencement of the year,....		$56,93
Received of members and by sale of tickets,.....		282,90
From Comptroller,.....		75,00
		$424,83
Paid for use of tents,.....	$41 00	
For rent of land,.....	10 00	
Printing and other miscellaneous expenses, ..	39 00	
	$90 00	
Premiums awarded, ...	181 62	
		$271 62
Balance on hand,.....		$153 21

A. BYINGTON, *Vice-President.*

Extract from the Address of A. Byington, *V. President.*

The United States have been inhabited by civilized man a little more than two hundred years, and in parts of the country that have been longest settled, many fields, once fruitful, are turned to waste, as not worth the cost of fencing and tillage. The county of Orleans has been settled about forty years, and many of its fields show unmistakable signs of diminished fertility. It is a law of the animal economy, that population keeps pace with the production of the means to sustain it, and that as population becomes more dense, a better system of cultivation must be adopted, or resort must be had to an inferior kind of food; and if the great mass of the population of this country does not some day have to subsist upon a vegetable instead of a meat diet, they will escape the fate that has befallen every densely populated country that has pre-

ceded it, and the question of skilful husbandry becomes one not merely of pecuniary interest of dollars and cents, but one which concerns the comfort and the well being of the human race, and we will best understand how to render our fields fertile and have an abundance of food by first acquainting ourselves with some of the natural laws which govern its production, some of which I will briefly state.

It is one of the qualities of every substance, that whatever space it occupies, it occupies to the exclusion of every other substance, and this principle is peculiarly applicable to the business of farming, for to the extent that any noxious weed is produced in the soil, to the same extent must every useful plant be excluded, and if suffered to go to seed must result in a multiplication of the evil; and I cannot think that either the men or the descendants of the men who have redeemed this fine country from the forest, will be long in deciding the question which shall occupy their soil, wheat or blue grass.

The germ of every plant derives its first nourishment from the substance of the seed, and its growth is vigorous or otherwise, other circumstances being equal, in proportion to the amount of nourishment which the seed contains; and let no man tell you that shrunk seed is as good as any, and cheaper, because there are more kernels in a bushel.

The elementary substances which go to make up the food and raiment of man, have all existed since the creation, and the business of production is not one of creating a substance, but of transformation from a condition useless, to one that is useful for the satisfaction of some human want. Growth follows decay, and decay furnishes the elements for reproduction; and the farmer often has the satisfaction of changing matter from a state of death and decomposition, loathsome and offensive to the senses, into forms of life and beauty, pleasing to the eye and grateful to the taste.

Food of Animals.

The food of man mainly consists of vegetables and the flesh of domestic animals. The food of domestic animals and the material for the growth of vegetation is derived from the earth and air. The food of every animal, man included, before it is fitted to add

to the growth or repair the waste of the body, is first converted into a fluid or to a state of solution in a fluid. This point once being understood and conceded, I think the question about watering sheep in winter can at once be decided as well as that of any other stock, especially if their feed be dry.

The earths, strictly so called, constitute but a small portion of the material of plants, the principal use of them being to give the plant a firm position, and to receive a portion of the material adapted to the growth, and the proper condition of the earth would seem to be that it be so mellow as to be easily penetrated by the roots of a plant, and at the same time sufficiently compact to hold the roots firmly in their place. The growth of vegetation is also affected by fluids both aqueous and aerial, and by substances in a state of solution in a fluid. The three fluids which mainly contribute to the growth of vegetation, are carbon, oxygen and hydrogen. The two last named composing water, and which is together with the materials held in solution by it, and necessary to its growth, taken up by the plant.

Carbon being the greater portion of the substance of every plant is derived from the atmosphere, it being rapidly absorbed by the leaves; and here we might stop and make a rational and practical conclusion about the injurious effects resulting from the close feeding of grass lands in the fall. The unfed field has all its leaves sound and vigorous, ready to imbibe the carbonic acid gas in the atmosphere at the first approach of warm weather, and a rapid growth is the consequence ; while the field that is close fed presents an appearance decidedly the reverse. The same injurious effects result from close feeding in the spring. The plant being deprived of the organs through which it should receive its food, it avails nothing to the plant that the atmosphere is full of the substance adapted to its growth. The true system would seem to be to cut and cure fodder enough to keep our stock until our pastures are nearly full grown, as an acre of well cured fodder will keep more stock than an acre of pasture under the best management.

And now, while upon the subject of feeding stock, I would like to say a few words on the kindred subject of shelter for stock in winter. A certain degree of heat is necessary in the animal body

to preserve life, and as it is like all other bodies subject to the loss of heat by contact with an atmosphere or any thing else colder than itself, death in cold weather would soon ensue from this cause if the material for the production of this element were not constantly supplied. This takes place in the lungs of animals by a process similar to that of combustion under any other circumstances, and the result is the same. Oxygen, a supporter of combustion, is inhaled from the atmosphere by the lungs, at the same time the blood is passing through them. The carbon of the blood is by contact with the oxygen consumed which generates heat, and the result is carbonic acid gas, which is expelled into the atmosphere and becomes a part of the food of the vegetable world. The amount of the carbon consumed in the production of animal heat is in proportion to the degree of exposure to cold, and as it is of the same chemical composition with the flesh and fat of animals, is so much subtracted from the material which would have contributed to the thrift of the animal. The inference derivable from the foregoing facts, that good shelter is to a great extent equivalent to food, I hardly need to state, as it will readily present itself to every mind; and here, if a farmer may be allowed to be curious as men of other professions may be, I might state that the cavities in the lungs of an animal, where the air and blood come in contact, are separated by a membrane of so close a texture that the blood cannot pass through it, yet at the same time is sufficiently open to admit of the passage of air, gas or any substance of equal tenuity.

Gentlemen, I am here in sight of institutions devoted to learning, endeavoring, in a limited way, to show the connexion between Sience and Agriculture; and for aught that I know have excited the risibility of those whose especial business it is to teach, by the broken and imperfect manner in which I have done it. We farmers have received but little aid from the fund at the disposal of the Regents of the University, or any other fund, except it be the Common School Fund, (and with this it is supposed our education must end;) but I submit it to the sober common sense of the farmers who hear me, if the knowledge I have here been endeavoring to communicate, or something like it, is not as practically useful and as likely to be remembered as some things that are now taught under the auspices of the Regents, such, for example, as the declen-

sion of the latin word bonus, nominative, bonus arum; genitive bon orum, bon arum, bon orom: and other like sounds which had their use and meaning a thousand years ago.

The subjects of manure and the rotation of crops, are either of them sufficient to occupy the time of a whole address. I will barely state two or three general principles. Whatever has been a vegetable, can become a vegetable again. Manure lying for a long time in the field uncovered, is subject to a loss by evaporation; and manure lying in piles sufficient to produce fermentation and a degree of heat above one hundred by the thermometer, (as is frequently the case about horse stables,) becomes volatile, and the most valuable part of it escapes into the air; and the farmer who manages his manure in disregard of these principles, is guilty of the worst species of agrarianism, and loses more every year than the cost in time and money of a membership of this society. Plants differ somewhat in the amount of the several chemical constituents which they contain, as also does manure; and the period at which different portions of manure are brought in a state suitable for the nourishment of plants, is also various, and the successful application of the principle of rotation in crops, very much depends upon cultivating in succession the kind of plant which the manure and soil in their then condition are best adapted to sustain.

OSWEGO.

Owing to an omission, no report was made by the proper officers of our society last year to the State society of the doings in this county. It is but proper now to say that it was not deficient in its duty to the agricultural cause. A very spirited fair was held in the city of Oswego, on the 10th and 11th of September, 1851, which, considering the almost unprecedented heat of the weather at the time, deterring the driving of stock from any great distance, was every way creditable. The usual amount of premiums were awarded in books solely, which, however, was found to work unfavorably, as well as unsatisfactorily.

The Annual fair for the year 1852, was held on Wednesday and Thursday, the 29th and 30th of September, on the east bank of

the Oswego river, opposite the village of Fulton, on grounds not only well suited to the purpose, but admirably arranged by the Executive committee. They were enclosed by a board fence, on three sides, with the rapid stream on the fourth. The stock were well shaded, well watered, and well provendered, three important considerations in the fitting up for such gatherings.

The charge of one shilling admission was made on the first day this year, as also last year, to such as were not members of the society, and found to work well; nor should there be any doubt either of the expediency or the propriety of making such charge, for surely, those who will not cheerfully contribute that small amount towards the expenses of this object, had better refrain from being present.

In proof of its popularity, independent of nearly two hundred members, who, with their families, without minute investigation as to consanguinity, were freely admitted, the receipts at the gate show that the single admissions reached 1,200 on the first day, and the whole number present on both days, is estimated at nearly 5,000. It is desirable to state this, that our sister counties may understand the onward progress of the cause in this northern section of our State.

Nor was the exhibition of itself any less indicative of a growing interest in the subject of stock-raising, crop-growing, or manufacturing, in our section. Of horses, there were 75, against 47 last year. Of horned cattle, 66, against 43. Entries of all sorts, as compared with last season, 497 against 358. As to the character of the stock on exhibition, it manifested a corresponding improvement; nor can there be any doubt of the lively interest felt by our farmers in this regard.

The plowing match on the second day of the fair, was altogether the most animated scene of the occasion, and beyond compare, the best of any that has preceded it in this county. Not less than two thousand spectators were present; six "yeomen," (the youngest sixteen,) entered the lists. The competition was of the closest character, and the judges found it difficult to decide on the best workman.

The Address was delivered in the afternoon by the President. The subject was "The enobling and compensating properties of the pursuits of husbandry;" the point being to show that the farmer who is educated as such, is elevated by his pursuit, in proportion as he traces effects to their causes, and realizes the wonder-working influences of those chemical combinations that serve to produce the plant and resuscitate the soil; and that, however moderately compensated, as compared with other walks of life, his is a mine of wealth and security against adversity possessed by no other class.

Much stress was laid upon the importance of incorporating agricultural chemistry into our common school education, urging, also, that legislative action should be had in favor of establishing an agricultural school. That the farmers, as a body, should demand this if they are true to themselves, irrespective of political biases. It was shown that every President of this country, from Washington down to the present incumbent, has called the attention of Congress to the organization of an Agricultural Bureau, but called in vain; and that since our existence as a nation, only $29,000 has been appropriated to promote this interest; and that the same result had followed like appeals from successive chief magistrates in this State. He urged the call of a State agricultural convention, to digest and carry out some plan for the accomplishment of this very important means of retaining to this State the value of her farming lands.

According to the provisions of the new constitution of the society, the annual meeting was held on the third Wednesday in October, and the following persons elected as officers for the ensuing year:

Hamilton Murray, of Oswego, President; John N. Holmes, of Hastings, 1st Vice-President; Samuel Lewis, of Hannibal, 2d Vice-President; I. A. Place, Fulton, Recording secretary; N. Goodsell, New-Haven, Corresponding secretary; J. I. Wolcott, Fulton, Treasurer; William Schenck, I. E. Dutton, and Amory Howe, Executive committee.

It was decided to hold the fair of 1853 in the town of Granby. The society resolved that the State Society be memorialized to call a State Agricultural Convention, for the purposes before alluded to.

HAMILTON MURRAY, *President.*

EXTRACT FROM ADDRESS OF HAMILTON MURRAY, PRESIDENT.

AGRICULTURAL EDUCATION.

We have only glanced, and that most imperfectly at the components of the air we breathe, and breathe a life time often, without further inquiry. The question now arises how these subjects can be made *familiar* to the farming community. In my opinion, in but one way. A way by which we will in time raise the standard of education in that class. Carry out the great doctrine "as the twig is bent the tree is inclined." *Let works on agricultural chemistry become text books in our district schools; let our State Normal school make it a requisite part of the teacher's education;* let the young and old pass a few evenings every winter in witnessing some of those chemical combinations which any ordinary teacher, with a very ordinary and not expensive apparatus, could present. This should be done preparatory and with reference to a more enlarged sphere of education for some, *in a State agricultural school,* from whence would go forth those who would become professors of Agricultural Chemistry, instructing our youth and counseling the ignorant in the due management of their farms. This is not utopian but practical, and must be brought into active operation, if we are to maintain the value of our lands on the eastern side of this great country, stretching from the Atlantic to the Pacific.

My hope is, that the parent Society of this State, through its efficient, and intelligent Secretary, who has recently witnessed the transforming effects of high culture in Great Britain, and could, from his position, concentrate the action of the agricultural portion of our citizens so as to bring about these desired results. For one I appeal to him to accomplish this. He has the Chief Magistrates of this State, in succession, with him. He has the intelligence of those active in and giving tone to the State Agricultural Society with him, and for its accomplishment, he will ever have the thanks of the well wisher of our agricultural prosperity.

It is a remarkable fact, that ever since the year 1796, the subject of national action in relation to agricultural information, in the, form of an Agricultural Board, or Bureau, has occupied the attention of successive National Executives, and you all know, that the subject of agricultural education, in a practical and scientific

form, under the auspices of the State, has been the theme of our gubernatorial messages. Of the great men who have occupied the Presidential chair, from the time of our beloved Washington, we find message after message, replete on the subject.

Washington and Jefferson, were active, practical and enterprising farmers, and the correspondence of both, particularly the former, is full of the importance of national action in regard to it.

In writing to Sir John Sinclair, that eminent reformer in husbandry, in Great Britain, in 1794, he says: "I know of no pursuit in which more real and important services can be rendered to any country, than by improving its agriculture, its breeds of useful animals, and other branches of a husbandman's cares."

And again to the same person he writes:

"It will be some time, I fear, before an agricultural society with Congressional aids, [we were then, you will bear in mind over loaded by a national debt] will be established in this country; we must walk, as others have done, before we can run. Small societies must prepare the way for greater, but with the light before us I hope we shall not be so long in maturation as older nations have been."

While he kept the subject of encouraging agriculture prominently before Congress, in all his annual messages, you will allow me to quote from the last he ever made to that body:

"It will not be doubted, with reference to either national or individual welfare, agriculture is of primary importance. In proportion as nations advance in population, and other circumstances of maturity, this truth becomes more apparent, and renders the cultivation of the soil more and more an object of public patronage. *Institutions for promoting it, grow up, supported by the public purse; and to what object can it be dedicated with greater propriety?*"

Now who ever thought of charging the writer of these sentiments, with impractical or chimerical views on any subject, and I hesitate not to say, that the diffusion of knowledge in regard to

husbandry, was among the most important of our national weal, in his capacious, practical mind. I will not tax you with further quotations from his pen; but Mr. Jefferson must be heard, and in his sixth annual message, he says in regard to agricultural education:

"Not that it would be proposed to take its ordinary branches out of the hands of private enterprise, which manage so much better all the concerns to which it is equal, but *a public institution can alone supply those sciences*, which though rarely called for, are yet necessary to complete the circle, all the parts of which contribute to the improvement of the country, and some of them to its preservation."

I will add an extract from the message of another agricultural President, I refer to the lamented Taylor, who in the only annual message it was permitted him to send to our Congress, remarks:

"No direct aid has been given by the general government to the improvement of agriculture, except by the expenditure of small sums for the collection and publication of agricultural statistics, and for some chemical analyses. *This aid is, in my opinion, wholly inadequate.* To give to this leading branch of American industry, the encouragement it merits, I respectfully recommend the establishment of an agricultural bureau. *To elevate the social condition of the agriculturist; to increase his prosperity, and extend the means of usefulness to his country, by multiplying his sources of information, should be the study of every Statesman, and the primary object of every Legislator.*"

I will close my quotations with the views of our present Chief Magistrate on this much neglected branch, so far as the fostering care of our general or State government is concerned.

In his first message he says: "More than three-fourths of our population are engaged in the cultivation of the soil. The commercial, manufacturing and navigating interests are all, to a great extent, dependent on the agricultural. It is, therefore, the most important interest of the nation, and has a just claim to the fostering care and protection of the government, so far as they can be extended consistently with the provisions of the Constitution.

As this cannot be done by the ordinary modes of legislation, I respectfully recommend the establishment of an agricultural bureau, to be charged with the duty of giving to this leading branch of American industry the encouragement which it so well deserves. * * By publishing the results of experiments, with suitable explanations, and by the collection and distribution of rare seeds and plants, with instruction as to the best system of cultivation, much may be done to promote this great National interest."

In his message last year, after again impressing on Congress the fact that of the large majority of our people, "four-fifths" are engaged in agriculture, and alluding to the vast extent of land appropriated to that pursuit, he adds: "And yet it is a singular fact, that whilst the manufacturing and commercial interests have engaged the attention of Congress during a large portion of every session, and our statutes abound in provisions for their protection and encouragement, *little has yet been done for the advancement of agriculture. It is time that this reproach to our legislation should be removed.*"

An Agricultural Bureau, charged with the duty of collecting and disseminating correct information as to the best modes of cultivation, and of the most effectual means of preserving and restoring the fertility of the soil, could not fail to be, in the language of Washington, in his last annual message to Congress, "a very cheap instrument of immense national benefit."

Thus we see that every President of this great agricultural country, in succession, from its greatest and first to its last and universally respected chief magistrate, have rang the same chime on this theme, but to deaf ears. This may be said of our own several State Executives, and with like results. And why, gentlemen, is it thus? Simply and solely, in my opinion, *because we, the farmers, are ourselves indifferent and inert.* Shall four-fifths of our population find no advocates capable of demanding what their chiefs recommend and they need, or shall three-quarters of a century more roll by and the same tale be told that Fillmore declared? Yes, if *every other interest is to be represented in our Legislative Halls but the agricultural*; if our farmers have not influence and force enough to send some one to say, we too must

be heard, and action must be had. Could we have the same concentration in regard to this as is had for almost every branch of manufactures when a tariff question is before Congress, we should have not only our Agricultural Bureau at Washington, but an agricultural school in every State, and the farmer would not be regarded as a "clod hopper," but his profession would occupy a position second to no other.

It is a remarkable fact that since our existence as a nation, notwithstanding the language of Washington, Jefferson, Madison, Monroe, Adams, and their successors, only $29,000 has been appropriated for the advancement of agriculture in these United States out of its public treasury.

How long are Great Britain, France and Russia, indeed all Europe, to patronize schools for agricultural education, and we, the great mass of self-governed people, engaged in cultivating the soil we own, not be able to point to a single one in any State in the Union. Russia has an agricultural institution, with 48 college buildings, occupying 3,000 acres of land, and attended by several thousand students, as established by Queen Catharine. France has 70 school farms, in which professors are employed to lecture on all practical and scientific branches of agriculture, and I learn that that government expends annually, nearly 6,000,000 of francs, or a million and a quarter of dollars, in the advancement of these interests. Belgium has 100 agricultural schools, supported by the State; Bavaria 35; Austria 33; Prussia 32; Great Britain and Ireland more than 100. While millions are expended in these King-governed countries, scarce a dollar comparatively is devoted to the most important as well as incomparably the most popular branch of national industry. Again, I say, why is this? I fear the answer is, because our farmers neither appreciate their position, their profession, or the necessity of an agricultural education.

Value of Science. Since I have resided in this county, I have heard this region decried, because of the prevalence of hardpan, and that so near the surface as to interfere with the cultivation of the soil. Believing, as I do in the great principle of compensation pervading all the arrangements of nature, and finding that

we were emphatically a sandstone region, and wholly destitute of lime, whether carbonate, sulphatic, or phosphate, I was led to think that this said *hardpan* might possess some of these elements: I was strengthened in this by discovering that plants grew very rank where it was dug up from our wells, and left on the surface. I urged the attention of this society to this point and under its resolution I have had this same hardpan, in the most concrete state I could procure it, subjected to a rigid analysis. I will now give you the result as transmitted to me by Mr. J. H. Salisbury, of Albany, the analyst of the State Society.

"The samples of earth you sent me have been subjected to a rigid analysis. the results are as follows: 100 parts of the earth deprived of all its water gave

Silica,	71.61	
Lime,	6.69	or carbonate of lime 12.04
Carbonic acid,	5.35	
Alumina and iron,	9.90	
Magnesia,	0.15	
Phosphoric acid,	0.04	
Potassa,	0.30	
Soda,	0.21	
Sulphuric acid,	0.35	
Organic matter,	5.05	
	99.65	

Its fertilizing properties, I think, arise from lime, phosphoric and sulphuric acids, potassa and soda. The percentage of lime as you will see from the analysis, is quite large. The deposite is an interesting one, and if of considerable extent, may prove valuable to the farmer in the vicinity."

You thus perceive we have within our reach, a large body of material, twelve per cent and more of which consists of the very property of which our section is otherwise deprived. Add to this the universal experience of the value of underdraining; combine with this mode of culture the use of the subsoil plow, whereby this hardpan is commingled with the surface soil, and depend upon it, a great desideratum will be gained, for the material increase of our crops. I have adverted to this point in order to show how often we forego an advantage within our reach, for the want of a little chemical knowledge.

Is it not high time that this subject had more attention, and will not the husbandmen of Oswego county, bestir themselves to show a widely different condition of things during the ensuing decade. Will they not through their influence upon their representatives, whether in our general or State government, do what they can to secure the patronage of both, in some efficient, continuous mode.

I would suggest as one of the best means of accomplishing our object, the call of *a State Agricultural Convention*, to consider the ways and means to secure the establishment of an agricultural institution, on some basis, and at least make the experiment, if experiment it can be called, and if found inefficient, after a thorough trial, it can but be abandoned.

TABULAR VIEW OF PRODUCTS IN TOWNS IN OSWEGO COUNTY.

INTERROGATORIES IN RELATION TO	HANNIBAL.	OSWEGO.	SCRIBA.	VOLNEY.	GRANBY.	NEW HAVEN.
Prevailing crop,.....	Corn and oats.	Black and raspberries	Corn.	Corn and oats.	Corn and oats.	Corn and oats.
Crop most profitable,	Corn and oats.	Wood and barrels.	Corn.	Corn.	Corn.	Corn and oats.
Character of soil,....	Gravel and hardpan.	Sandy, clay & hardp'n	Hardpan.	Clay and gravel.	Sandy loam.	Variable.
Value of land,.....	$15 to 20.	$15 to $30.	$25.	$20.	$15.	$15.
Crop of hay,.....	One ton.	1½ tons.	1½ tons.	1 ton.	1½ tons.	1¼ tons.
" oats, ...	30 bushels.	40 bushels.	30 bushels.	35 bushels.	32 bushels.	33 bushels.
" corn, ...	30 do	50 do	35 do	50 do	30 do	32 do
" wheat,.....	15 do	10 do	15 do	12 do	12 do	15 do
" rye, ...	20 do	30 do	25 do	20 do	15 do	Not raised.
" barley, ...	25 do	30 do	35 do	30 do	30 do	20 bushels.
" potatoes,....	80 do	150 do		100 do	85 do	80 do
" peas, ...		30 do		50 do		20 do
Extent of orchard, ..	Small and increasing.	Moderate.	Great.	Great, and 5 bush. to the tree.	Limited, but increasing.	Small, increasing.
Yield per tree, ...	5 to 10 bush., if old.					8 to 10 bushels.
Sort preferred,.....	Greenings and Russets	[Spitsenb's. Green's, Russets, and	G., S. and R. R.	Green'gs & Rus'ts	R., R. G. and S.	G., R. R. and B.
Summer fallows,....	Very little.	Little.	Very little.	Not any.	Not much.	Not much.
Subsoiling, ...	None.	None.	None.	None.	None.	Not at all.
Depth of plowing,...	5 inches.	8 inches.	4 inches.	4 to 6 inches.	6 inches.	6 inches.
Draining, ...	Moderately.	Very little.	Considerable.	Small.	Little.	Moderate.
Grazing, ...	Moderately.	Not much.	Very limited.	Considerable.	Limited.	Moderate.
Underdraining, ...	Very little.	Some.	Some, increasing.	Not much.	Some.	Moderate.

TABULAR VIEW OF PRODUCTS.—(CONTINUED.)

INTERROGATORIES IN RELATION TO	SCHROEPPEL.	MEXICO.	HASTINGS.	PALERMO.	SANDY CREEK.	WILLIAMSTOWN.	REDFIELD.
Prevailing crop,.....	Corn and oats.	Hay and oats.	Corn.	Corn.	Corn.	Corn, oats & po-	Grass.
Crop most profitable	Corn and oats,	Hay and oats.	Oats.	Corn and potatoes.	Corn.	Corn. [tatoes.	Grass. [bottom.
Character of soil,....	Sandy loam.	Variable.	G. and L.	Variable.	Gravel & hardpan.	Sandy loam.	S'dstone & alluv'l
Value of land, ...	$19.	$20.	$16.	$7 to $20.	$14.	$17.	$8 to $10.
Crop of hay, ...	1½ tons	1½ tons.	1¼ tons.	1¼ ton.	1¼ tons.	1¼ tons.	1½ tons.
" oats, ...	35 bushels.	40 bushels.	35 bushels.	30 bushels.	30 bushels.	22 bushels.	
" corn, ...	40 do	35 do	30 do	30 do	30 do	25 do	30 bushels.
" wheat,.....	15 do	12 do	15 do	13 do	11 do	10 do	40 bushels.
" rye,.....		15 do		22 do	12 do	15 do	None raised.
" barley, ...	30 do	20 do		Not raised.		Not raised.	do
" potatoes,....	100 do	100 do	100 do	100 bushels.	75 do	100 bushels.	do
" peas, ...	20 do		25 do	Little raised.		20 do	150 bushels.
Extent of orchard,...	Not large.	Considerable.		Now considerable.		Limited.	Very little.
Yield per tree, ...		8 bushels.	10 bush., if old.	5 bush. per tree.			
Sort preferred,.....	G. S. and R. R.	G., R. and S.	R. R., G. and S.	R. and G.	Greening.	R. Russett.	Crab.
Summer fallows,....	Very little.	Not much.	Not.	Not general.	None.	Small extent.	Not done.
Subsoiling, ...	Not used.	Not used.	None.	None.	None.	None.	Not used.
Depth of plowing,...	6 inches.	6 inch's. [other	6 inches.	5 inches.	5 inches.	5 inches.	6 inches.
Draining,.....	Moderate.	More than any	Very little.	Moderate.		Very little.	General.
Grazing, ...	Moderate.	Not great.	Little.	Little.	Little.	Limited.	Principal branch.
Underdraining, ...	Not extensive.	Very little.	Not any.	Some, but little.	Little.	None.	None.

OTSEGO.

Report of Francis Rotch, Chm. Executive Committee.

The annual exhibition of the Otsego County agricultural Society, was this year held at Morris, (formerly called Butternuts,) on Wednesday and Thursday the 22d and 23d of September.

Its removal from Cooperstown was by arrangements with the local society, known as the "Farmers' Agricultural Society," which has for seventeen years existed and held its meetings at Louisville, but which on this occasion relinquished its annual exhibition, and the arrangements, as it so happened, fell wholly under their management; and certainly the long training, experience, and unanimity of its members produced a great and manifest improvement, compared with all former exhibitions of the county society.

Theretofore there had been very little classification of animals and mongrel competed against mongrel without any reference to parentage or degress in purity of blood, or distinction in breed. On the present occasion there was a most thorough classification of the pure breeds, of their respective grades, and of native stock, so that every animal was brought in competition with those only of its own cast, and breed, and though the neighbourhood abounded in pure bred animals yet, in consideration to the practical farmer, by far the largest amount in premiums were given to grade and native stock.

The ground was well selected, spacious, level, and dry; and contained a sufficient number of convenient well built pens formed of moveable pannels of narrow rough hemlock boards nailed on to the end pieces of the same and stiffened by a center strip, these pannels were secured by oak pins to square posts driven into the ground, making the cost of a fourteen feet pen, every thing included, not to exceed one dollar and ten cents. They answered the intended purpose admirably, not an escape of either cattle, sheep, or hogs having occured; and when taken down, the pannels met with ready sale to our farmers, who find them very useful in forming yards &c., for the convenience of dividing and better wintering their stock. As agricultural exhibitions take place

generally when these pannels are not in use, they, in all probability, will frequently serve their original purpose with but little further expense to the society. I have been very particular in my description of the pens, thinking it may be useful to other societies, who have them oftentimes, too rudely and insufficiently constructed.

In a convenient position on the ground stood the large tent belonging to the society, in which were prettily and tastefully arranged the productions of the spinning wheel, the loom, and the needle; the nicer specimens of the arts and manufactures, also drawings, paintings, casts and models. The fruits of our climate and of the season were to be seen here in most tempting beauty; and a band of music added to the attractions within.

The day was fine, the number of articles numerous and the assemblage of spectators large; the grounds were well kept by the police, all were orderly and no accidents occured. It must however be acknowledged that some confusion and trouble arose in the business office from the liberty granted exhibitors to make entries even up to the eleventh hour; an evil however it would be difficult indeed for a county to correct, while the State Society sanctions it, and can by a numerous and efficient corps of officials, meet and struggle through the difficulty and confusion, rather than cure it, by insisting that entries for premiums shall be made on or before a certain day.

The south and south western part of this county has produced too many winners at the State exhibitions, for it to be doubted that the general character of the stock was of a superior quality on the present occasion when it could be so easily assembled within its own borders.

Of the Devons, there was a larger collection than had heretofore been seen in the county, notwithstanding the absence of Mr. N. H. Washbon's herd, which had always claimed to be the representative here of Mr. Patterson's stock. On this occasion, animals were to be seen that had won the first premiums of the State agricultural Society on various occasions; animals too of recent importation from some of the best herds in England, fine in the

bone, light in the offal, broad and full on the loin, accompanied by a style and finish that belong more especially to high breeding. It is to be hoped that such importations, which of late have been frequent in our State, may so raise the standard of excellence with our breeders, that the large coarse boned, heavy headed, loose built red cattle, heretofore passing under the name of Devon, may find some other and more fitting appellation. It was noticed that the color of the recently imported cattle exhibited here were, as in all the other late importations, lighter than once was the fashion in their native land.

Very many pretty specimens of grade Devons were exhibited that well deserved the numerous premiums awarded them.

Of Short-horns we had our usual excellent turn out, some good herds having been long established in this vicinity; and their valuable grades amongst the classes of young cattle were very promising. We must however regret, that our farmers are too easily tempted by the drovers' liberal prices to part with the females of this grade; and these animals, that would become mothers of valuable stock, are driven out of the county, and the *goose is killed for the golden egg.*

A few very excellent Herefords were on the ground descendants as was understood, from the valuable importations of Mr. Corning and Mr. Sotham. This breed of cattle has only lately been introduced into this part of the county and we doubt not, if advantage is taken of the opportunity, our oxen will be greatly improved by the cross, and enabled to encounter the stiffest soils, and ultimately bring great weights to the scales; moreover grade Herefords are easily matched, and the quality of their meat is unquestionably excellent. The farmers of this vicinity are quite inclined to try the cross, as ox labor is much in use amongst us.

Specimens of the Alderney imported from the Channel Islands attracted much notice; and perhaps less admiration from the many than the few who knew they were remakable for their dairy excellence, and for the large percentage of cream their milk contains; they are small, poverty stricken, blood-like looking animals, with an eye of uncommon beauty, legs fine as a deer's, light

forehand, thin neck and narrow in the quarters, good points for the dairy, but most unpromising for the shambles. An enterprising dairy farmer, who has an excellent herd of milking Short-horns, is about to try the cross which is said to produce the "Ayrshire." It might perhaps be well were some of our dairymen to cautiously make the experiment with their common cows. How much longer will it take our dairymen to learn, what those of Herkimer already know, that it is infinitely better to raise a few calves annually from their best milkers, than to supply deficiencies from the poorest cows of another man's herd?

Our show of oxen, which heretofore has always been one of the proudest features of our *local* exhibitions, was not on this occasion as good as usual. It is said that our oxen are decreasing in size, and of this the drovers complain and pass on. They are as handsome as they are well matched; and more finished oxen in their education are not to be found the world over, but "the market," say the drovers, "will have size." They are taken to the rich lands of those who feed for the city markets, and, after a year or two of labor, are put up to fat, and then it is that they want weight. No county is perhaps better able to produce fine oxen than Otsego. She possesses in an eminent degree the material, and ox labor being much used within her own borders, the animals readily pay their way, from steers up to oxen, by the work they do. To remedy the complaint of size, we strongly urge our farmers not to part with their grade Short-horn heifers, but to retain them as cows; put them to pure bred Devon bulls, to secure color and facility in matching, and the grade Short-horn cow will give them early maturity, size, and weight. The cross between the grade Short-horns and Herefords would probably produce a yet larger animal, but possibly not so active. The Hereford bull on the "native cow" would undoubtedly produce an admirable working ox, and perhaps large enough to suit the market; this, however, has not yet been tried in this part of the county. Some very fine grade oxen are owned in its northern divisions, but they are, we believe, of a much higher grade than the first cross. At all rates, persevere in using a grade Short-horn for the dams, as a security for size and early maturity, and either a Devon or a Hereford bull, by way of giving to

the offspring the nerve and energy necessary to a good working ox. The cross with a bull of either variety will facilitate matching.

Of sheep, the exhibition was excellent in Merinos, South Downs, Long-wools, Cheviots, and in French Merinos; these latter selected and imported direct by the owners. They were animals of most wonderful wool-bearing properties, nothing remaining unclothed by that material but the tips of the nose and the hoofs. We were glad to see that their fleeces were in a natural state, without resort to the "Cornwall finish," or any other composition by which the weight of fleece in French Merino sheep have elsewhere been delusively increased.

We would here take occasion, though aware of traveling somewhat out of the record, to inquire what is the object of those Vermont flock-masters who load their fleeces with all kinds of filthy mixtures? it is not for a moment to be supposed that the manufacturer mistakes "*Cornwall finish*" for *wool*, or that he will pay the price of wool for that filthy mixture. Not so, however, with the inexperienced farmer, who, lured by the high weights declared and published, and oftentimes respectably vouched for at shearing time, purchases a sheep from which he is assured a twenty-five pound fleece was shorn, or some other extraordinary weight, no matter what. The purchaser pays down a commensurate heavy price, and takes home his sheep; in course of time he shears him; the fleece is put on the steelyards, and comes up to the reputed weight. Another year is passed, and again the sheep comes to the shearing bench, but this time the fleece has wofully fallen off in weight, and what was twenty-five, has shrunk to perhaps fifteen pounds. The sheep never was in *finer condition nor health*, and has been well and evenly shorn. What can have occasioned this deficiency? Why, my good, honest friend, you neglected to put on the celebrated "*Cornwall finish*," that golden panacea of the Vermont breeder, which, by its *virtue*, increases the weight of a French Merino *fleece*, though it may not add to it a single ounce of *wool*.

Otsego, now eminently a dairy county, was not long since known as a sheep district, producing a large amount of beauti-

fully fine wool; and though the severity of its winters sinks the mercury, oftentimes twenty degrees below zero, and in summer our sun shines as hotly as in any part of Vermont, still the flock-masters here have not found it necessary to use the "Cornwall finish," or any other "finish" that should load down their fleeces with an unctuous, dirt-gathering substance; neither has it been their habit to make "black Merinos" out of the tar-bucket. As a matter of *sanitary* precaution, therefore, those gentlemen of the French Merino school, may in future spare themselves the trouble of "smearing," unless, indeed, their sheep may be more tender than our old breed of Merinos; and this can hardly be, as the flock exhibited to-day was in the highest condition and health, with such ample fleeces of *wool* as nature alone had seen fit to bestow upon them. Neither will the farmer much longer be cajoled by "black Merinoes," but will be convinced by manufacturers' prices, that grease and dirt do not fetch the price of wool.

The second day was occupied by the plowing match, the exhibition of horses, the address, and the payment of premiums. The weather continued fine, but the long drought which had prevailed in this section of the county had baked the earth to a brick, yet our plowmen, nothing discouraged, set in, ten in number, each with a pair of horses; and two only in the class for ox teams without drivers. With us *speed* is not made an element of good plowing; the character of furrow required was clearly defined and understood. The lands were numbered, and the judges not being on the ground made their awards after the work was done, by those numbers, thus escaping all suspicion of partiality or bias.

The horses were then called for; and amongst the stallions we noticed Prior and Morgan, both winners of first premiums at the State exhibitions, also a very beautiful horse colt by Prior, and some promising young geldings by American Chief; there were also several pairs of closely matched carriage horses, well broken and gentle, and numerous single horses of a very useful character. A few good brood mares might have been selected from the many exhibited, but we would recommend those who breed for market to obtain those of a rather larger size, when we flatter ourselves that Otsego will, ere long, regain her former celebrity for good

and fast horses. It has been urged that since the introduction of the various breeds of imported stock, Otsego has given less attention to horses, and that those she does raise are under size: there is no doubt that the mistaken and ruinous economy of employing the services of the one dollar horses that travel the country, without pedigree, without action, oftentimes blemished and unsound, has been the cause of the deterioration complained of, and had at one time left us with hardly a good stallion in the county.

It is nearly four years since some of our most intelligent farmers were roused up to this state of things; companies of twenty were formed, stock subscribed, and horses of merit were brought into this vicinity; amongst them the thorough bred horse Prior, and the larger and less highly bred horse American Chief; the former of known and tried excellence, showing extraordinary compactness and power, a winner on a heavy course, and a worthy competitor of Blue Dick, but with not quite foot enough to win. American Chief is a very lofty showy animal of 16½ hands high, active and powerful in his movements, and well calculated to give us an increase of size, and a style that makes a good market horse. His colts, now only four years old, have a general character about them that makes it easy to get them together as matched horses, and pairs have already been sold at high prices. The colts from Prior are a year younger, and have hardly yet shown themselves.

Great interest is felt as to the produce by these two horses, and very opposite opinions strenuously maintained; the one party asserting that a cross from thorough breds on our rather undersized mares, will produce a weedy light animal, neither suited for market nor available as a horse of all work. Another party insists that with so strong and pony built a thorough bred as Prior, who stands 15¾ hands high, there will be no diminution of size or strength, but rather an excess of both, to which will be added activity, light easy movements, courage, speed, and blood like endurance. The two horses are certainly totally different in character, and the experiment will now be fairly tried as to which course is best suited to the mares of this county. Until the American Chief's colts came into market and brought highly remunerating prices, the greater number of our farmers continued

to breed their one dollar colts, not profiting by the opportunity offered them by these companies of a better animal, at the still reasonable price of ten dollars; this last season however, some change has taken place for the better in this particular, and both horses have been more used by those not belonging to the companies.

The show of Butter and Cheese, considering how thorougly a dairy county this is, was compartively small, owing we presume as far as this immediate vicinity is concerned, to the fact that, there are a number of dairies whose products are known to be so uniformly excellent and so much on a par with each other that it becomes, of necessity, more a matter of *taste* with the judges than a discrimination as to excellence; under these circumstances, when it is considered how few and how small are the premiums, it can well be understood why dairies whose excellence is well established, should feel not only indifferent but even indisposed to show. Could the society afford to offer a premium of one hundred or even fifty dollars for the best sample of butter opened and tested *after being six months in the keeping of the committee*, I doubt not it would call forth a strong competition amongst our best dairymen, and would elicit information relative to its manufacture much more important than can now be obtained, where the dairyman's object and interest does not extend beyond putting his butter, well conditioned, into market as early as possible after it is packed. How it may prove *throughout the winter* is not his affair, but is nevertheless most important to the consumer. Any county obtaining for its firkin butter the reputation of keeping sweet and well throughout the whole winter, would have a great advantage in our markets, and we venture to suggest the subject as worthy of attention by those who may hereafter arrange the society's premiums.

In the evening the members of the county society and visitors generally were invited by the local society to partake of a cold collation at Mr. Yates' Hotel; when after an hour or two, pleasantly passed in discussing agricultural topics and interests, the party partook of the supper which had been provided with the liberality for which our host Mr. Yates is so deservedly known.

The show of swine was small; no wonder, they are most unamiable creatures to have any thing to do with. The specimens were however generally of a mongrel cast, a few Suffolks alone showed purity of blood and were much admired, though considered hardly large enough for the farmer's use. Not a Berkshire was to be seen where once they were so numerous and so famous! I believe they were thought to have too much lean meat or muscle for barreling, as it then becomes hard; but for hams and shoulders they were allowed to be unequaled, as in those parts a larger proportion of lean meat than is found in other improved breeds is desirable.

Though no premiums were offered for poultry yet some very good specimens of various breeds were exhibited. The India varieties of fowls curious for their long legs and necks drew much attention and comments, but were considered by no means a desirable bird for the farm-yard, being great consumers and no workers. The round, full bodied short legged Dorking reigns paramount in this vicinity as a fancy variety.

The annual meeting of the Otsego County agricultural Society was held at the Empire House in Cooperstown on the 23d of December 1852, when the several awards for crops and winter products &c., &c., were made and the premiums paid; we regret however to say that claimants for crops had scarcely in any instance sufficiently complied with the requisitions necessary to entitle them to premiums, which were consequently withheld.

Under the head of winter fruits Mr. Freeman of Richfield displayed a valuable and extensive assortment of apples, large beautiful and perfect specimens of their kinds, to which the Society's first premium was awarded. Mr. Davidson also shewed some very fine large and perfect specimens of apples, a few of which were even larger and more attractive in appearance than those on Mr. Freeman's table, but the varieties were not as numerous though equally well grown and preserved.

The attention of the society was particularly drawn to these fruits, as showing the various kinds which are well adapted to and will come to perfection in this severe climate notwithstanding

our short seasons; a thing not to be lost sight of where farmers are planting out new orchards, or replacing their old worthless wild trees with grafted ones of the best varieties, and to such it is strongly recommended to get their trees from the nurseries of our own county rather than take them from a milder climate.

The Treasurer, A. C. Moore, Esq., presented the following account which was audited and passed:

To cash paid expenses of fair,	$156 00
Cash premiums paid,	455 00
Balance on hand,	114 21
	725 41

By cash from former treasurer,	$27 94
" " 3 members,	30 00
" " 14 " $5,	70 00
" " 10 " 3,	30 00
" " 20 " 2,	40 00
" " 233 " 1,	233 00
" " State Treasurer,	148 00
" " taken at tent door,	123 43
" " 1 copy Transactions sold,	1 00
" " fence sold,	22 04
	$725 41

Officers for 1853:—President, Horner Colman; Vice Presidents, Alex. H. Clark, L. Proctor, Z. Martin; Executive committee, Mr. Davidson, I. W. Ball, Philip Potter, Thos. Higby, David Bundy, Robt. H. Van Rensselaer, A Barnum, J. A. Cheney, J. Chamberlain, S. Baker, Richd. Franchot, Wm. Frater, S. G. Cone, George Clark, R. Day, Chas. McLean, J. Rathbone, J. Walker; Secretary, Chs. J. Stillman; Treasurer, Henry T. Metcalf.

FRAN'S ROTCH.

PUTNAM.

B. P. JOHNSON, ESQ., *Secretary*, &c:

Dear sir—Agreeably to the requisions of the "Act for the promotion of agriculture," I have the honor to lay before you, a report of the proceedings of the Putnam County agricultural Society during the year ending December 1852.

Balance on hand per last account,.....		$273 60
Cash for memberships and subscriptions.....		206 50
Amount of cash proceeds of fair,.....		114 93
Cash of State Treasurer,.....		38 00
		$633 03
Amount paid for premiums, winter meeting,	$12 50	
Amount paid for pemiums at fair,.....	140 98	
Amount of incidental expenses,.....	60 95	
		$214 43
Balance in hands of treasurer,.....		$418 60

THOS. B. ARDEN,
President.

The condition of the finances of the society says all that is necessary for the success of our association. That is to say our farmers are evidently convinced that action in some direction has become necessary, which is certainly one great point attained, but we have only commenced marking time, in the next all important step, as to the manner and in what channel to direct these accumulated energies. Authentic agricultural statistics are now our greatest need. Without them we can do nothing, with them we have a foundation to build upon and I trust your committee will move in this question to some efficient purpose, for we are impatient for a sound move. The funds of the society could not certainly be more legitimately appropriated than to aid in this great end.

THOS. B. ARDEN.

Extract from the Address of T. B. Arden, President.

In calling upon you for aid in our common cause, do not understand me to refer solely to our financial interest, for however important the dollars and cents may be, they must take a secondary position when brought in contact with that principle which, acting upon the nobler man, directs the implement of the farmer, the analysis of the chemist, the calculations of the philosopher, or the researches of the naturalist, with the same unerring results. A cultivated understanding, a mind eager to find out the effect of every cause which may be acting within the circle of any man's farm, is what I would earnestly call upon you to throw into the garners of our association. The wisdom of our Legislature, which induced them to embody in the act incorporating the State and county Societies, the one clause requiring competitors for premiums in agriculture, "to deliver in writing to the Secretary of the Society an accurate decription of the process in preparing the soil, (including the quality and quantity of manure applied,) and raising the crops, or in feeding the animal, as may be, and also the expense and product of the crop, or of increase of value in the animal, with a view of showing accurately the profits of cultivating the crop or feeding the animal," is worthy of our highest respect; for every practical and common sense man must at one glance see, that without these statements we have no data to make up our conclusions from; and, therefore no common medium to communicate either our successes for the advancement of our cause, or our failures, to warn the farmer of the shoal that wrecked a whole season's labor. Whereas, let any man keep a journal of his farm transactions, and unhesitatingly commit to paper the various operations of his farm, and let them, through the medium of the county paper, or a committee report, be presented to the community, and the time is not far distant when thorough culture will replace what I fear is now hardly ordinary tillering; at least such are the means by which our operations will be reduced to a system, and from the habit of recording the various details of the farm, will grow a methodical routine of farm accounts by which, at the end of the year, each farmer will not only be able to tell what are his stores, but the amount of each, together with what each load of hay or bushel of grain cost him, and knowing this he

may come somewhat near the value of his farm stock at the end of a long winter, besides being able to give a satisfactory account to a higher power of the many days of labor and toil alloted him in the past year. How much preferable and how much more worthy of intelligent beings, would such an odrer of things be, to the present systen of guessing, which, to a great extent now prevails among us. I am aware that there are many who esteem enlightened agriculture as the offspring of enthusiasm, and though willing to admit that something is necessary to be done for the poor farmers, are still reluctant to walk in the wake of the already developed light of science, and tenaciously cling to that gloriously alluring *ignus fatuus* or will-of-the-wisp, called "common sense," or "practical men." Would they only adopt the latter in its legitimate sense, I could see no objections; but they take them altogether in a one-sided view. The man who from year to year plods on, industriously to be sure, but still in the dark, with sometimes a good crop and sometimes a bad one, the reasons for either alike concentrated in the season or the moon, is their practical man. Why? Because he practices or exercises on the farm I suppose, for I can see no other reason. No, gentlemen, this is short of the aim. Interpret a "practical man" to be one who, from his cultivated understanding, brings the light of science to verify his practice in the field of that science, and I will cheerfully concede to you that theirs is our best example. What makes the practical navigator?—the mathematician combined with the sailor. What makes the statesman?—the science of government combined with a knowledge of mankind. What makes the military commander?—the science of war with the *coup d'oeil* of the general. What makes the architect? —the science of mechanics combined with the several arts of masonry, carpentering and drawing. These, gentlemen, are practical men, each in his particular calling; and show me a practical man (in this sense,) in agriculture, and I will cheerfully join his standard—that is to say, a man who has been instructed in the various sciences of chemistry, botany, geology, mineralogy, meteorology and physiology, or the science of the properties of the functions of animals and plants, and at the same time is conversant with the various manual operations of the farm, is one whom I should call a "practical farmer."

Again, let us glance for a moment at the "common sense" rule so often held up as the surest guide in our benighted calling. In the first place, can any gentleman in the ranks of its advocates (and they are many, *very many*,) tell me what is common sense? and how is it applied to the accomplishment of the various necessities of life, and particularly to the farmer's wants? Not but I am a strenuous advocate for this same common sense, but I am still more earnest in my desire that we should all understand how this brilliant is cut which radiates so much light, and possesses these wonderful powers of attraction, for I fear, like its brother brilliant, "practical men," very much depends upon the setting.

In the transactions of the ordinary business of life, few of us have been so little observant as not to have noticed the various grades of aptitude exhibited by our fellow beings, each in his particular calling. That I may, however, be better understood, and arrive at my point sooner, I will confine myself to the various operations of the farmer. Take the woodman; what constitutes his skill, and how has he become possessed of it? To the first you, of course, will answer—a man perfectly used to the use of the axe. Now how has he become possessed of it? You, to stand to your doctrine, reply—why, common sense teaches him that. But gentlemen, pause a moment and ask yourself, has this man been laboring any length of time to acquire this amount of skill in the use of his tool, or did he occur as some geological specimen? Doubtless you will all answer with me, that this man, being naturally endowed with reason, applied to it a severe and peculiar training through a period of years, by which he acquired a sound degree of judgment on this point; mark you, by his study or labor he acquired the exercise to perfection of one peculiar art, and that this common sense which we all value so highly was nothing more or less than a cultivated reason or enlightened understanding—a principle by which we are enlightened on the most abstract truths. It follows therefore, that this common sense will aid no uneducated man a jot further than his experience extends. Permit me to quote a passage from a celebrated divine on this subject—"By common sense is meant, I apprehend, (when the term is used with any distinct meaning,) an exercise of the judgment, unaided by any art or system of rules; such an exercise as we must necessarily employ

in numberless cases of daily occurrence, in which having no established principles to guide us—no line of procedure, as it were, distinctly chalked out—we must needs act on the best extemporaneous conjectures we can form. He who is eminently skilful in doing this, is said to possess a superior degree of common sense, But that common sense is only our second best guide—that the rules of art, if judiciously framed, are always desirable when they can be had, is an assertion for the truth of which I may appeal to the testimony of mankind in general, which is so much the more valuable, inasmuch as it may be accounted the testimony of adversaries. For the generality have a strong predilection in favor of common sense, except in those points in which they respectively possess a knowledge of a system of rules; but in these points they deride any one who trusts to unaided common sense. A sailor, e. g., will perhaps despise the pretensions of medical nem, and prefer treating a disease by common sense; but he would ridicule the proposal of navigating a ship by common sense, without regard to the maxims of nautical art. A physician, again, will perhaps contemn systems of political economy, of logic or metaphysics, and insist on the superior wisdom of trusting to common sense in such matters; but he would never approve of trusting to common sense in the treatement of diseases. Neither, again, would the architect recommend a reliance on common sense alone in building, nor the musician in music, to the neglect of the system of rules which, in their respective arts, have been deduced from scientific reasoning, aided by experience. And the induction might be extended to every department of practice. Since, therefore, each gives the preference to unassisted common sense only in those cases where he himself has nothing else to trust to, and invariably resorts to the rules of art wherever he possesses the knowledge of them, it is plain that mankind universally bear their testimony, though unconsciously, and often unwillingly, to the preferableness of systematic knowledge to conjectural judgments.

Now, gentlemen, I trust enough has been said to satisfy any reasoning mind that every science, art or practice, however humble its pretensions, must look alone to education for its successful prosecution; and that the farmer, whose calling now engages one tenth of the population of our State, will never reach the position

his suffrages entitle him to, until her protecting arm is extended over us, and a large proportion of her means devoted to the direct training of young men for the profession of agriculture. It is high time the farmer became aroused to his necessities, and spreading his banner to the breeze, proclaimed his privilege, nay, his rights, before the body that owe their existence to his bone and sinew. Send such men to your public councils as not only know your wants, but appreciate their bearing, and actuated by a love of truth, will conscientiously set themselves to work to meet your necessities, and leave self-aggrandizement to smaller minds and more appropriate spheres.

ESSAY

On the influence of rural life and its pursuits on the human mind. For which a silver Goblet was awarded to the author, Hugh C. Wilson, of Putnam Valley, by the Putnam County agricultural Society, 1852.

Going back through long ages, the early history of the world tells us of a garden filled with fruits and flowers, and in it a man was placed to tend it. Two things unfold themselves to us while contemplating that history, rural life and labor, God's first ordinations to man. Labor is twofold, physical and mental. Physical labor however intense can never achieve much without the co-operation of mind; nor can mental labor alone bring to its votary, that sound body and mind which belongs to the proper blending of the two. These things, I belive are truisms, fixed facts in nature, which as they have been noted by all men, of even limited powers of observation, I presume need not again be argued out at length. The question may perhaps arise with some, why was Adam our great progenitor made a gardener. The answer is plain. It is obvious that constituted as he was, he could have been nothing else and lived. He was formed to eat and drink; without food his body must have perished. His labor was not that severe bodily toil to which so many of us are subjected at the present day, it was essential to his sound physical and mental well being. In the garden of Eden was no clergyman, for Adam

communed directly with his God. In that garden was no lawyer for in following out the peaceful duties of his vocation, Adam had no claims to settle. In that garden was no doctor, for the labor of his hand gave health and strength to Adam, and the invigorating influence of rural pursuits gave a tone to body and mind that rendered the occupation of the doctor useless. Thus it will be seen that what are now considered by many, the noblest and greatest occupation, had no place in the early day of man. First was the agriculturist, next the mechanic. First the producer, then the consumers, in the thousand varying branches of society, as the world became peopled, from the small shop keeper to the king upon the throne. And alas! some have been consumers indeed, idle bees in the great hive of men, living upon the accumulated labor and toil of past generations, the few wresting by the sword and the bayonet, the hard earnings of many handed labor. But to return. As rural life was the first of God's ordinations to man, we are led to look to it as containing the germs at least of many valuable things. Let us endeavor to trace out some of its influences; and first its influence on health. The effect of rural life upon the health of man has been so often made a subject of panegyric, and has become so settled a point that I presume little need be said in support of it here. We need but point to the inhabitants of the great cities, flying to the country for health and strength, for rest and repose; we need but compare the pale faces of the city children with the ruddy countenances of our country boys and girls, to satisfy ourselves that the general opinion is true that rural life is most conducive to health. But more than this, recent statistics show that while with many occupations the average length of life is about forty-five, that of farmers, who form a large part of the rural population is sixty-five. If long life is generally the result of steady habits, regular h rs, active exerci e and a quiet mind, these statistics prove much for a rural life.

We pass now to the influence of rural life upon character, and here I must be understood to mean by character, the development of the physical, intellectual, and moral qualities of man. There are certain tendencies in the course of human events true alike of nations and of individuals; these tendencies history unfolds to us, and he who has read the history of the past carefully and at-

tentively, will be enabled, to a great extent to cast a horoscope over future events. Rural life has ever furnished, and will ever continue to furnish those qualities of mind which are essential to true greatness. As in the physical world from yonder mountain's side is hewn the rough block of granite or of marble, that is transported to the distant city, there to be polished by the hand of art, and to become a part of some stately edifice, so in the world of mind, the young man reared among the hills and valleys of rural scenes and accustomed to the hardships of a toilsome life, leaves those hills and valleys to become after years of study and improvement, a pillar in the edifice of the nation's councils. It is a fact worthy of note that few of the great statesmen of our nation were born in large cities or of parents occupying high positions in society. Reared amid hardships and toil, in early youth they acquired the habits of thinking and acting for themselves, and those habits once formed they carry through life. Nor is it alone to the great statesmen of our nation that these remarks will apply. Look around us, who are the great lawyers, the great divines, the great doctors, the great merchants of our cities at the present day. They are men, many of them men, who, but a few short years since, were unkown. In this country (thanks to our republican institutions,) talent accompanied by a proper degree of laudable ambition, is ever sure of success; we have here no hereditary distinctions to struggle against, no class of society whose favor we must buy. The progress of the man of talent here is ever onward, he may be a simple clerk in a banking house, he may occupy but the place of a copyist in an attorney's office, he may follow the plow through the long summer's day, he may be crushed for a time beneath the withering influence of poverty and misfortune, but these things are not his destiny. Not many years will pass away ere he who was a clerk, is at the head of that banking house. Not many years will pass away ere he who was copyist rises superior to his calling, and the halls of justice echo with his eloquence as a lawyer. Not many years will pass away when he who followed the plow through that long summer day will plow out for himself and his fellow laborers such things as will enrich their minds and render easier their toil of the body. Not many years will pass away ere he who was crushed beneath chill penury and misfortune will rise above the lurid cloud, and

those hours and days of sad depression will be but incentives to wake his soul to the noblest action.

Such has been and such ever will be the progress of talent, and the reasons are obvious. Man was made for action, his powers gain strength by use, they crumble and decay beneath disuse. Now in the rural districts few men comparitively speaking are rich; property is generally much more evenly divided than in cities and to those pursuing rural occupations labor is the law of life from which few can escape. From the earliest dawning of the mind, the boys and girls of our rural districts begin to learn something of the useful and practical of life: and they learn too that most useful and practical of all things to wait on themselves. No retinue of servants stand ready at their bidding, no nurse follows them to watch over their footsteps. In the days of their infancy, a mother's love watches over them and amid her thousand household cares, she finds time to attend to the wants of her little ones. But no sooner are those little ones able to totter about than they begin to take care of themselves, so that at the age of six, the little inhabitant of the rural district knows more of the actual and practical of life than the city boy at nine. Thus early does character begin to develope itself and often times when the youth of the city is yet in the leading strings of the nurse and dependant upon his parents for supplying every want, the little country boy is thinking of earning his own bread by the labor of his hand. Onward, ever onward is his watchword, and ere long we find him toiling to obtain the means of giving himself a more liberal education than his parents are able to give or the district school can bestow. Numerous are these instance.

Let us now for a moment trace out the tendencies of rural and city life, first however let me say that I wish to draw no invidious comparisons between the two: they both have their advantages and disadvantages, and are both parts of the great allotment of Providence to man. I only wish to speak of tendencies common to both and to present a few facts, which I think will be allowed to be such by all candid seekers after truth. But to return; this country boy we left had educated himself, he has grown to manhood, he has sought the great city to find scope for his talents and he has made himself a name. The principles of thrift econo-

my, and industry which belong to his early life still cling to him and amid the cares of business and the desire to accumulate wealth, the luxuries of the great emporium of fashion and art have little lure for him; but he is rearing a family who are gradually becoming entangled in its web; they grow up satisfied with the name and talents of their father, they enshrine themselves in the fortune he has made and rest their greatness upon that. Not knowledge, but wealth with them, is power, and on the scale of intellect they degenerate faster than their father rose, till in the next generation their greatness, and alas! too often the wealth they had boasted of is gone, the high places that knew them, know them no more, they are swept away in the current that is passing and their places are again filled by the men of energy and industry from the rural districts. I know that there is here and there an exception to this rule that only more strongly proves the rule. There must be an incentive to talent. Genius and talent pine away beneath wealth and luxury. Do we ask for proof of this; look back at the ages past and see the hero men of the world. Not in the sunshine of prosperity did they rise to glory's height, the storms of life gathered thickly over them; obstacles that would have seemed to present insuperable barriers have been met and overcome, dark hours of trial have been passed through and the mind gathering strength in its course has like a mighty giant triumphed over all. But it is not talent and genius in their mightier manifestations that we are most concerned with here, these are the exceptions, not the rule in men. But there is a quiet talent, a quiet genius that makes but little noise or show in the world. I mean that everyday talent, that is ever lending its aid to build up the great fabric of society. Like the busy little ant it works by slow but sure degrees until its daily labors cover a vast field. It is that talent upon which society is dependant for its numberless blessings. This may not be generally felt and acknowledged, yet it is nevetheless true; the working man whether in the capacity of lawyer, doctor or divine, whether in the capacity of farmer, mechanic or trader, is indispensible to the welfare of a nation. We are all parts of a great whole, weak when taken alone, strong when united in the bonds of social brotherhood. Let no man therefore laud his own calling above that of another, still if any one occupation or mode

of life is superior to another, it is that, which in its very nature furnishes the motive power that gives the impetus to all others, and this we must accord to rural life. But we must leave this part of our theme to notice briefly the influence of rural life upon some of the sciences.

Astronomy—It was amid the scenes of rural life while the shepherds of the early ages of the world tended their flocks by night, that their eyes naturally turned to the contemplation of those starry worlds that shone so brightly over them. There through the long night when the fair scenes of earth were hidden from their view they gazed in wonder. Little did they dream of their significance, they thought the sun and moon and stars were but attendants of this little world, they watched their motions on the vault of Heaven, they named and classed them into constellations and by them strove to read the destinies of men. The rude theories and wild imaginings of those ruralists have disappeared beneath the march of modern science, but the names they gave those constellations yet remain a tie to bind us to those early times.

Botany—health giving and enticing study, not within the cities din can we pursue thee in perfection, but amid the scenes of rural life, where nature strews the hills and vales with objects for our research, there in rich magnificence, the flowers bloom, rearing their bright forms to the sunny light, or like the modest violet hide their heads in grassy bowers.

Chemistry—especially what is called agricultural chemistry, commends itself peculiarly to the attention of the ruralist. It opens to him new and vast scenes for research. It enters into all his daily business though he may scarcely be aware of it. It teaches him the nature of soils and their proper combinations to produce results required. The manufacture of his butter and cheese, the fattening of his animals, the raising of his crops, all present problems for chemistry to solve.

Geology—That fascinating science called by a master mind "The world's history of itself." What a charm it lends to the dust on which we tread. Beneath its magic influence, each stone,

each rock, each boulder, that else had been unsightly things, become objects of the deepest interest. Where shall we go to study out its hidden wonders? To the granite mountains, to the coal deposites, to the vast regions of the tall ferns, now locked in the ice of the frozen north and bound by the torpor of death, but showing signs of a life once active as that of the torrid zone. What a field for thought does it present to the mind. Those granite rocks upheaved from the depths of the earth; those coal deposites once miles of dense forests, now condensed by heat and pressure into a more concentrated form for the convenience and benefit of man. Yes, the examination of all these great truths belongs to rural life, for amid the duties of that life we are brought in constant contact with them.

And *Poetry* too—Where shall we go for food for the poet's soul, but amid the wide expanse of nature. From what did Burns, the plow boy poet, draw his sweetest strains, but from the scenes of rural life. And the noblest, the most sublime passages of Byron owe their orign to the cloud capped mountains and lovely lakes of Switzerland. There he caught the echo of the distant thunder, there he saw the sunbeam gild the gentle wave, there he listened to the insect tribes chirping their notes that broke with pensiveness upon the bright, clear evening air. Yes, there he caught that inspiration that breathed itself forth in those pages of Childe Harold that will live when every other memory of its author shall be buried in oblivion—the knowledge and perception of the beautiful in nature and in art. The world around us teems with beauty and our creator has placed within us a sentiment capable of responding to that beauty. The utilitarian asks why should we trouble ourselves about what is not strictly useful in its most practical sense? we answer; God has made "every thing beautiful in its time," and this is no weak argument for the cultivation of the beautiful. Look abroad over the wide field of nature, a thousand varied shades blend in exquisite harmony over the mountain's brow and the lovely valley. Mark their sweet flowers with the rich coloring—see the tints of gold, vermilion, crimson, purple, that clothe the world of vegetables and of fruit. The rose could have been made to smell as sweet wrapped in a dress of somber hue, and fruit and flower every where might have present-

ed all that was useful without one single trace of that beauty which enshrouds them; but God in his goodness has made them otherwise, that they might be ministers in his hands to purify our hearts. Show me a man whose soul is dead to the sentiment of beauty, who feels no joy in communing with nature, who toils on without once turning his thoughts to the contemplation of what is around and above him, and you will show me a man, sordid, mean, and selfish. He may possess the faculty for acquiring dollars and cents, but he will be dead to every holy and lofty trait of humanity. To the inhabitants of the rural districts then we would say, cultivate the sentiment of beauty, adorn your dwellings with such emblems of rural taste and rural art as may be within your means; they will tend to make home happy to yourselves and to your children, they will tend to refine the feelings, elevate the affections, and purify the heart, and they will minister to a high and holy patriotism; for what is there that a man looks back to from the scenes of struggling life with purer and holier feelings than the happy home of his childhood. Rural life, peaceful and happy, free from the corroding cares and anxieties of trade and commerce, free from the harrassing toils of professional life, conducive in itself to virtue and religion, containing in itself the germ of usefulness that gives an impulse to all other modes of life; shall we not strive to elevate it to the high position to which its merits entitle it? How shall it be done, I answer in the words of Lord Bacon "knowledge is power;" knowledge may be acquired amid many difficulties and just in proportion to the amount of our knowledge will we gain power to triumph over the physical difficulties that lie in our path. We who live amid the works of nature should pass nothing unheeded by. There is no plant but botany has classed it somewhere, there is no stone so rude and rough that geology has not exhibited its use. No combination of earth, but chemistry has been able to analize. No change in the changeable elements but one day meteorology may be able to fathom. Let us train our minds then to habits of thought and reflection, they will not interfere with, but will lend a deep enduring pleasure to our calling; and no merchant prince or wealthy professional man, surrounded by the luxuries of other lands, and reposing in cushioned ease on downy pillows, shall be happier

than we, canopied by the blue sky of the eternal Heavens, while with manly arms and resolute hearts we are exploring the hidden depths of nature's mysteries.

QUEENS.

The eleventh annual exhibition of the Queens County agricultural Society, was held at the pleasant village of Flushing, on Wednesday, the 29th day of September, on the grounds of Thomas Legget, Esqr.

About noon, a large number of persons assembled in the methodist church to hear the annual address. The proceedings were opened with prayer by Rev. Mr Strong.

John A. King, President of the society, made a short address, in which he congratulated the society upon the exhibition of the day, which was far superior to any ever before held. Although the fair at one time had almost died out, it is now a memorable event in the annals of our county. It could hardly be otherwise, in such an exclusively agricultural district as Queens county.

He was sure success would henceforward be a matter of course, and their fairs become celebrated throughout the neighboring country. He encouraged his hearers to adhere to and improve this good old practice of agriculture. The officers of the society were satisfied, that Queens was well awake to her true interests, and their labors amply repaid by the successful results of this auspicious day; he would now introduce to the audience his kinsman Charles King, L.L. D., President of Columbia College, who would officiate as orator of the day.

Dr. King, being thus introduced, proceeded at once to deliver a most able address. At the conclusion of the address, which was received with marks of approbation, a resolution of thanks by A. G. Carll, Esqr. was voted to the orator, Dr. King, and a copy of his address solicited for publication.

The annual distribution of suitable premiums and rewards for excellence in the products of agriculture and horticulture, by

means of valuable books, so as to provide food for the *mind*, has received general approval. Agriculture left in a great measure to its own resources, has continued to improve, and has obtained great results. Whoever compares the United States of the present day, with that which was occupied by the Indians, a country covered with forests and marshes, where the inhabitants were chiefly employed in hunting or petty warfare, will scarcely deny that mind has had something to do with the change.

The facts and rules of action by which the change has been effected, form an important part of human knowledge ; that knowledge which the agriculturist acquires from his ancestors. But it is not now, however lately it may have been the practice, when farmers of the first order of intelligence will be satisfied with knowing and following the mere mechanical routine of time, and of the former modes of culture. An impulse has been given to the mind—its faculty of curiosity, the mother of knowledge, has been excited, and men who were content to know *how much* will do, now demand to know *the way in which it works*. Tell us, say they, *how it acts*, and we shall better understand all the details of practice, and be better prepared in case of disappointment, to ferert out the reasons of failure, and to guard against its recurrence. Hence it is, that a new awakened spirit of enquiry is busy to find out the true science of all things that come within the compass of the farmer's calling.

To meet these exigencies, the society early in the season announced a large number of valuable agricultural books as premiums, viz :

231 volumes of books, and about 100 diplomas ; 7 medals ; 6 butter knives ; making, together with cash premiums, nearly $800.

Cattle.—The exhibition of thorough bred and grade stock, was much larger than had been anticipated, and some difficulty was experienced on the morning of the fair to find suitable stands for all.

John C. Jackson, of Newtown, received premiums for his short horn bull, Astoria, by Duke of Exeter, out of Cream-pot 5th ; heifer, Nymph 2d, by 3d Duke of Cambridge, out of Nymph 1st ;

bull calf, Prince of Wales, by Wolviston, dam Cream-pot 6th; and grade heifer, Beauty, by Lamartine.

R. E. Thorne, of Manhasset, for bull Washington, by Bonaparte; John A. King, Jamaica, cow Ruby. The grade stock of Gen. A. Macdonald and A. H. Mickle, of Flushing, and Wm. J. Mott, of Manhasset, were especially fine.

Horses.—The show of horses was large, and as remarked by a good judge, "though not so numerous, of truer form and points, than most of those exhibited at the State Fair." This was, however, expected from the descendants of Eclipse, Messenger, Engineer, Mambrino, Abdalla, &c. Of full-blooded stock, Caleb T. Howell's Clarion, by Monumental Eclipse, out of Van Mater's Oscar mare, and David Garretson's Mayfly, by Trustee, out of a Messenger mare, were the best. The exhibition of horses not thorough bred, showed that we possess a particular breed of horses not to be found in many other countries, made up in the county, the root whereof is not necessarily to be looked for in the *English Stud Book*. Of this class, Jackson Nichol's George Washington, by Cassius M. Clay, and Alexander Jackson's Hamiltonian, by Young Almac, received the first premiums. Twenty-one premiums were awarded to horses, including ten silver cups.

Sheep and Swine.—The land in Queens is too valuable for sheep pasture, consequently this department was not large. Wm. J. Mott and J. R. Burtis, of Manhasset, and Edward A. Lawrence, of Flushing, exhibited very fine middle-wooled bucks and ewes. Judge Haviland, of Roslyn, fine long-wooled, and Edward A. Lawrence, of Flushing, the best Merino.

The show of swine and pigs was extensive, nine premiums were awarded. The improvement of domestic animals has been much retarded by the vulgar persuasion, that the *largest males* should be selected, for the purpose of procreation. This fallacy is the source of the mortification experienced by many farmers, who, either in selecting from their stock, or in purchasing, give the largest price for overgrown bulls, boars, or rams, without respect to form or family, or excellence in particular points; and too often give the preference to stallions blazoned in handbills, for

being "full sixteen hands and upwards." One of the eminent English professors, on the art of breeding, remarks, "The strength of the animal does not depend on the size of the bones, but on the muscles; many animals with large bones being weak, their *muscles being small*." It is, however, pleasing to the lover of the horse, to find that our horse of all work is rapidly improving by breed, feed, and *education*.

Dairy.—There were nineteen competitors for premiums on butter; quality first rate, and well handled. Six silver butter knives were awarded, three of them to young girls under twenty-one years of age.

The statements mainly agree, that early in the morning is the best time for churning in warm weather, the butter freed from the milk with a wooden ladle and Liverpool salt, (Ashton's) at the rate of one ounce to the pound of butter, well worked in; no saltpeter or any other substance used; keeps best in stone pots free from air.

Plowing Match.—The company at the plowing ground was large, with a good attendance of ladies. Robert Willets, of Newtown, received the first premium; ground plowed, one-eighth of an acre of green sward; time, 26 minutes, with Mayher's plow, "Eagle F." The ground was in good order, and the work well done. Morris Kelly, of Jamaica, second best; time, 29 minutes, "Scotch iron plow." At most of our plowing matches, it seems the greatest rivalry is to plow against time. One hour is allowed for the work. One competitor finished his work in 20 minutes; his team, on coming out, was more distressed than by a fair day's labor, and his work badly done.

Vegetables and Roots.—This department exceeded our anticipations. From the severe drouth of last summer a very slim show was expected. Never at any of our exhibitions was a finer display, especially from Flushing and Newtown. Mr. Thomas Leggett exhibited 30 varieties; Edward E. Mitchel and Charles Kneeland, nearly as many.

Poultry.—The principal exhibitor was a young man deserving great credit, Mr. Richard C. McCormick, of Jamaica, having on the ground 15 varieties. Edward A. Lawrence, of Flushing, received first premiums for turkies and geese.

Fruits and Flowers.—The exhibition of fruit was very superior, as might have been expected in such a remarkably fine fruit district. Messrs. Parsons, of Flushing, received the first premium; their d splay of apples was very large; we regret not having been furnished with a list of the varieties. D. F. Manice, of Oaklands, exhibited 15 varieties of fruits, among them 135 varieties of pears, 14 of grapes, and 14 of apples, all fine specimens. Capt. J. Briggs, of Jamaica, 92 varieties of pears; Jacob Williams, North Hempstead, 57 varieties of apples. Jacob B. Boerum, of Flushing, received the first premium for the finest display of flowers, and W. E. Burton, of Glen Cove, for the best dahlias.

Taking into account the superior character of the stock, the excellence of agricultural products, variety, size and luscious richness of fruits, beauty of flowers, excellence of dairy products, inventive genius and enterprize of mechanics, the variety and beauty of domestic manufactures, and articles of taste from the fair hands of the ladies, the fair may be considered to have been the most successful one the society has held. Indeed, rapidly as our population is increasing; as industry and skill develope the rich resources of our soil; as an increase in the value of land calls for better and more successful tillage; as truer taste and more enlightened economy lead farmers to raise choicer qualities of live stock; as the intense activity of our age, an earnest rivalry with the artizans of other countries, and juster views of the dignity and importance of labor develope and increase constructive talent, we should be false to the great idea of progress if we did not make every such exhibition superior to all former ones.

The financial condition of our society is as follows:

Balance on hand, 1851, ...	$301 20
Cash received from members, &c., ...	869 22
Cash from Comptroller, ...	91 00
	$1,261 42
Expenses for premiums, printing, &c.,.....	909 17
Balance on hand,.....	$352 25

The annual meeting was held at the Court House, Hempstead, on the 16th day of September, 1852. The following officers were elected for the ensuing year, 1853:

President, John A. King, Jamaica. Vice-Presidents, David W. Jones, Oyster Bay; William L. Laing, Hempstead; Robert M. Bell, Flushing; Joseph Tompkins, Newtown; George H. Horsefield, North Hempstead; Benjamin I. Doughty, Jamaica. Managers, Timothy Carman, Oyster Bay; Micajah M. Petit, Hempstead; Edward A. Lawrence, Flushing; George Hulst, Newtown; William J. Mott, North Hempstead; Bernardus Hendrickson, Jamaica. Corresponding Secretary and Treasurer, John Harrold, Hempstead. Recording Secretary, Lendal F. Pratt, Flushing.

The secretary read a communication from the president of the Oswego County agricultural Society, suggesting the appointing of five delegates to a convention, to be called by the State Agricultural Society, for the purpose of considering the necessity of applying to the Legislature for the passage of a bill, making the necessary provision for a State Agricultural School. The following delegates were appointed: John A. King, President; John Harrold, Secretary; Hon S. S. Smith, George F. Jerome, Benjamin T. Kissam.

An increased and interesting correspondence has been held during the past year, with the members of this society and others, to whom we are indebted for many suggestions contained in this report. By these tokens of amity the labors of office are greatly decreased; we trust they will continue. The prospects of the society were never so encouraging as at present.

JOHN HAROLD, *Cor. Sec'y.*

EXTRACT FROM THE ADDRESS.

MR. PRESIDENT AND GENTLEMEN OF
THE QUEENS COUNTY AGRICULTURAL SOCIETY:

When honored with the invitation to deliver the address at this anniversary meeting of your society, my first impulse was to decline upon the principle that in all pursuits and avocations, those only or chiefly are to be listened to, who are expert in the matters whereof they are to treat; and my knowledge and experience of agriculture are limited indeed.

But then, again, the request came from Queens county, with which many of my earlier recollections and associations are closely identified; a county, too, which holds in its bosom in sacred trust the ashes of some of my nearest and dearest kinsmen and connections.

Under the influence of these feelings, and because all knowledge is related—and hence that he who has made progress in some studies cannot fail entirely to interest his hearers, even though he be not specially conversant with the particular pursuit of those he is to address—I decided to accept the invitation, and am now here, gentlemen, to claim your indulgence, while I present such general, though rather rambling and disconnected considerations, as may seem to me not altogether inapplicable to the occasion.

And first, gentlemen, of the importance of such societies and such anniversaries as this. The principle of *Association*, whereby men intent upon a common object, and interested in a common pursuit, may, by combining, greatly multiply their power, increase their skill, and extend their influence, is one that emphatically belongs to free countries, and springs from free institutions. Hence, among us all classes associate—the merchants, the manufacturers, the lawyers and mechanics, all have these societies—their Chamber of Commerce, their Board of Trade, their libraries, their lectures, their anniversaries; but it is only recently, and it may also be said, reluctantly, that the farmers, the tillers of the earth, have seen the advantages of such associations; and even now how few comparitively of the great agricultural population of this State do actively participate in the doings of Agricultural Societies.

Yet, upon mere principles of self-defence, and of asserting for his class a proper share of influence in shaping the polity and laws of the country which more or less affect the welfare of each and all of us, the farmer should encourage associations of which the object is to improve the process of his art—to bring science to the aid of practice; and hardly less important to bring together at stated periods those engaged in a common pursuit, that they may exchange opinions, and by comparing notes, as well as by counting noses, be always in a condition to make their voices

heard and their influence felt on all questions of policy essentially touching their interests. Other classes, numerically smaller, understand the value of such concerted opinion and action; and the more numerous body of tillers of the earth, scattered over wide surfaces, and each pursuing his separate path, have less opportunity of intelligent, united action. Agricultural societies and agricultural anniversaries, and the intermediate meetings, furnish the means of readily concentrating the views of the agricultural population, and of giving to these views their full and proper effect.

But the higher point in which to regard this association, is that of a *school of instruction*, where what has long been practiced as a mere empirical art, is considered, discussed and explained as a comprehensive science—a science in which astronomy, chemistry, vegetable physiology, botany and geology all claim a part, and which lies at the base of all individual and all national prosperity.

It is only within a comparitively recent period, that this view seems to have forced itself upon the cultivators of the soil; and even now it is not universally received, and a majority perhaps of all those engaged in the pursuits of the farmer carry on those pursuits in old traditional ways, without concerning themselves to know, or to inquire, whether or not, in an age of progress like this, in all other branches and departments of human industry, the business of the farmer alone remains stationary. It is certainly not the best characteristic or valuable trait of a farmer, that he is prone to keep to old ways and to hold fast to old customs; for directly opposite is the tendency of the more fickle and excitable population of cities and towns, always ready to run after novelties, and eager for change; and safety and benefit to all arise from the countervailing tendencies of these two classes. But as there is undoubted error in the indulgence of inconsiderate desire to change, so there is mischievous obstruction in the unwise conservatism which will not relax its hold upon old usages, even where the advantage of change is made manifest.

Agricultural societies, fairs and premiums have done much, and are doing much to promote wise progress; and eminent men of science have turned their attention to the needs of this prima

industry of man, and have published works which dignify, while they point at the means of advanc ng agriculture as a science.

It is a well considered arrangement of your society, that among the premiums to be awarded for the best products of the farm, the dairy, the orchard and the garden, are some of these approved and useful works. They will not fail to extend the knowledge of new and improved processes in farming, and to explain to many a one the nature and the causes of the success which commanded the premium—but which success may have been looked upon rather as a happy accident, than as the result of well applied skill and care.

In truth, gentlemen, it is in your business, as in every other business, that knowledge is power; and, other things being equal, that he who best understands the nature of the soil he cultivates, the manure best adapted to its peculiarities, and to the crops he designs to raise, will succeed best.

Starting, then, from this point, I would venture to say, that the first step to be taken in bettering the style of farming in any county, is by bettering its common schools. By the wise munificence of the State, education is free and open to all. Schools, therefore, there will be, but the character and practical worth of the schools will depend upon those who, in each school district, shall employ and regulate the compensation of the teacher. If cheapness be the chief point aimed at: if the man or woman to whom is to be intrusted the training of immortal beings—the future men and women of the country—is to be chaffered with and beaten down to the lowest cent upon which a bare existence can be supported; if an educator of the intellect and the heart is to be rated, as to compensation, no higher than the trainer of the horse or the ox, it must necessarily follow that the instruction will be as cheap as the wages, and that no duly qualified person, possessing conscientiousness as well as knowledge, can be had. It is for you, gentlemen, who constitute the force and give color to the sentiments of the rural districts, to give to this suggestion such consideration as you may think it deserves.

Entertaining myself no doubts both as to the duty and as to the practicability, at very moderate cost comparitively, of so providing competent teachers for the common schools, I arrive with equal certainty at the conclusion, that the liberal thirst for knowledge awakened by such teachers, and the habit acquired under them of intelligent investigation, will survive the hours of schooling, and animate all the future pursuits of the learner, whether he be farmer, merchant, lawyer, or laborer. The man or woman once taught in early life the proper use of the intellectual faculties, vouchsafed by God to all—though not in like degree to all—cannot wholly forget or forego that use in after days. Hence, if from the school the lad goes to the labors of the farm, he will undertake and discharge them, not mechanically merely, nor as a dull but unavoidable daily routine, but with a curiosity all the time awake, an observing spirit all the time called into exercise by the phenomena passing before his eyes, and of which he will naturally and perseveringly seek the solution.

It seems natural to advert to the great changes which time, and especially the construction of the Erie canal, have wrought in the agriculture of Queens county. Before the revolution, and even after the conclusion of the peace of 1783, Queens county was remarkable for the produce of excellent wheat and the best flour then made in the State, comparing advantageously in the market of New York and in the markets of the West Indies, whither much flour was then exported, with the best Philadelphia flour. Wheat and flour continued to be the staples of this county—though much of the flour was from wheat brought in from elsewhere—up to the period of the construction of the Erie canal, the completion of which brought the produce of the rich and cheap lands of the western parts of New-York into competition with that of Long Island. I well remember the opposition to the canal throughout this county, and the apprehension almost universal that it would depreciate all the farms on Long Island. The result has, indeed, been far otherwise; but it did entirely put a stop to the manufacture of flour for exportation in this county, and very much reduced the quantity of wheat raised in it. For it was very soon found that flouring mills dependent on the tide, such as those famous in the day of General Coles, and J. B. Coles,

at Dorsoris, and which, therefore, could only work half the time, could not compete with mills worked by natural waterfalls in the very heart of the wheat-growing country; and consequently, the mills at Dorsoris have gone to decay, and now, instead of flour and wheat, Queens exports hay, and oats, and corn, and potatoes, abundant poultry, and more abundant garden stuffs. The canal, which was to ruin the county and depreciate its lands, has turned it into a garden, and added two or three times, and perhaps more, to the value of every tillable acre in it. Bathed by two seas, indented along either coast by deep bays, and intersected in its whole length by a railroad, which affords cheap and rapid conveyance to and from the great metropolis, Queens county cannot be interfered with in its prosperity, as long as there are in that metropolis hundreds of thousands of mouths to be daily supplied, and hundreds of thousands of dollars to be expended for what may be called, perhaps, articles of luxury, early flowers, fruits and vegetables, and flowers, fruits and vegetables raised out of season, and by artificial climates; and herein indeed, as it seems to me, is mainly to consist in the future the profitable employment of the soil and the industry of Queens county, or at any rate, of that large portion of it immediately contiguous to its railroads and its bays. Horticulture, rather than agriculture—the garden rather than the farm—is to be the chief object of attention and culture. But then gardens will come to have the dimensions of farms, and in a great degree, though not wholly, the plow will do the work of the spade.

One great staple of agriculture, or farming proper, will still be extensively cultivated; for a near, safe, and constant market gives it permanent value I refer to hay—which the Queens county farmer knows well how to raise, of excellent quality, and how to withhold from market, until—canals and rivers being fast locked in icy fetters—he can command his price for it in New-York. It is a humble sounding word this of hay, and the thing itself, as being the food of unreasoning animals alone, is cheaply considered. Yet, as a matter of fact, the hay crop of the United States is of more value in dollars and cents than the cotton crop, albeit we hear sometimes that cotton is emphatically the life and wealth of the Republic and the preserver of the Union. It certainly is a

most important and precious product—entering largely into our exports as well as into home consumption, and affording profitable employment to navigation. But in money value the hay crop greatly exceeds that of the cotton crop, while it is of more absolute cessity to daily home life.

The cotton crop, in the last census of the United States, is put down at a little short of two and a half million bales for 1849–50. Estimating the bales at 400 lbs. each, we shall have 1,000,000,000 lbs., which, at 7 cents per lb.—a high average—would produce *seventy millions of dollars*. The same census returns give, as the yield of hay in the United States for the same year, ('49–50,) nearly thirteen millions of tons. Estimating these at *eight dollars* per ton, (you are now selling your hay, I believe, for $20, or more, per ton,) we shall have, as the annual value of the yield of the hay fields of the United States, the enormous amount of *one hundred and four millions of dollars*. Why, if we add to the cotton the value of all the tobacco raised in the United States, (about 2,000,000,000 lbs.,) estimated at 8 cents per lb., a very high average, we shall have the sum of *sixteen millions*, making eighty-six millions as the aggregate value of cotton and tobacco, which is still *eighteen* millions of dollars short of the value of the hay crop.

Let us add the other chief staple of South Carolina, rice—of which 215,000,000 lbs. are reported for 1850, being an increase of eighty-six millions pounds over the product of 1840. Valuing the rice at $4 the 100 lbs., we shall have the sum of $8,600,000, making the aggregate money value of cotton, tobacco and rice, *ninety-four millions six hundred thousand dollars*, still leaving the value of the hay crop nearly *nine millions and a half* larger; and hay—I mention it in no invidious sense, but as an interesting fact—is almost exclusively the product of free labor; and the State of New-York produces more than one quarter of the whole crop.

But garden products will be the chief staple next to hay. Asparagus, peas, beans, cauliflowers, sweet corn, cucumbers, onions, carrots, cabbages, and beets, strawberries, raspberries, and

melons, will be cultivated by the acre instead of by the bed or the patch, and flowers, too, will have their place; and then while the men are doing the hard work, the women and the children can be advantageously employed in tending and gathering the flowers and the fruits. The character of the soil—light, warm, and easily tilled—is exceedingly favorable to such use of it. And with fair play to that soil in restoring generously to it, by appropriate manure, the elements which it parts with in every crop, the return will be sure, and with a ready market and cheap and rapid transportation, cannot disappoint reasonable expectation. This character of the soil of Queens county, its general salubrity and its pure water, combined with its proximity to the great city, invite to a residence here. And as there is no desire more universal than that with which men advancing in years, and who have passed their days of manhood and maturity in the whirl and tumult of business, long for the quiet, the independence, the repose, and the memories of country life—so it may be set down as one of the permanent elements in the value of Queens county lands, that they are the coveted retiring and resting places of many a citizen who looks forward eventually to spend the serene evening of his days beneath his own vine and his own fig tree, and last to know

> ——the life
> Led by primeval ages, uncorrupt,
> When angels dwelt, and God himself, with man.

"It is this natural taste," says Lamartine, the poet, philosopher and statesman, whom France, in her spasmodic wrestlings after freedom, proved herself incapable of appreciating; "it is this natural taste, this sacred relationship between man and a little plot of ground, more particularly appropriated, fenced in, cultivated, planted, sown, watered and harvested by the hand of the gardener, which in all time has made the story of the garden a part of the story of the nation, and also given it a place in the reverise as to future life, or the theogony of peoples.

"Examine all theogonies, all religions, all history, even all fable, and not one among them all that does not assign man in his origin to an Eden; that is, a garden; there is not one that, after death, does not conduct him to an Elysium; not one that does not

mingle the idea of a garden abounding in living waters and in fruits, with the images and reveries of primitive felicity on earth, of a happy hereafter in heaven. What does all this prove, gentlemen? That the imagination of man, in all its various dreams of a paradise, has been unable to devise anything more charming than a terrestrial or a celestial garden, with living water, shade, flowers, fruit, a green sod, trees, a propitious sky, serene stars—a reciprocal friendship so to speak, between man and the soil. So true it is too, that even in his most delicious reveries, man has been able to invent nothing more perfect than nature. A spot in the sunshine, protected from intruders, embellished by vegetation, animated by the birds of heaven, and animals the friends of man, made sacred by the work of his hands, and made holy by the presence of the Creator; the habitation of the family, the abode of love, of friendship, as it has been for a succession of immortal generations. In such an abode it is that human nature has always placed happiness, and is it not there you persevere in seeking it? In seeking it, not always perfect and unchangeable as in our dreams, but in seeking it at least in those brief and imperfect glimpses which it has pleased God now and then to permit us to obtain in this world below."

Such are the reveries, and such the anticipations, do not doubt it, of many a heart-weary dweller in the great neighboring city, and to your genial soil and climate he looks for that happy spot and resting-place, which is to be his earthly Elysium. Nor is it for the rich alone, or the mighty of the earth, that the simple and pure enjoyments springing from its cultivation are reserved. No; for, again to borrow from our eloquent Frenchman, "there is no need of wealth, of magnificence, of extended domain, to enjoy all that God has hidden of happiness in the culture or spectacle of vegetable life. There are pleasures which it is not given to fortune to appropriate and monopolise. Nature is never aristocratic; she has not endowed the poor with other perceptions than the rich of natural delights, nor the idler than the laboring man. However vast, or however contracted the space devoted by man to this pursuit, his soul can only receive the same amount of gratification from its pleasures; the human soul is thus constituted

because it is infinite. Yes, the human soul is endowed with such a faculty of extension and contraction, that it can overowfl the universe, and, like Alexander, find it too narrow for its desires; or it can concentrate, and as it were fold itself up upon a mere spot of earth, and exclaim with the sage of Tiber, from his half acre sowed with mallows, and watered by a little streamlet, 'This little spot of earth is all the world to me.'"

We regret that we have not space to give the whole of the very able address of Dr. King.

RICHMOND.

The third annual fair of the Richmond County agricultural Society was held at Richmond, the capital town, on the 14th of October 1852, and although the day was somewhat unfavorable, yet there was a full attendance. The farmers with their products from all parts of the county, assembled at an early hour, and a most joyous feeling seemed to pervade the breast of every honest yeoman, all was animation with the most cordial greetings, each one arranging his specimens with taste, to be shown off to the best advantage.

The exhibition of horses and cattle showed a very great improvement in both stocks, since the formation of this society; Mr. Landen has lately imported two Alderney cows and a very fine bull, they were exhibited at our fair, and much admired, and promise to do much in the improvement of our stock for good milkers.

Of the different kinds of grain, we noticed quite an improvement in corn and wheat, several gentlemen have raised 112 bushels of shell corn to the acre. The Australia wheat has been lately introduced and promises a rich crop for the farmer.

The horticultural department is doing its work nobly. The Island is becoming covered with beautiful cottages, and the soil being so well adapted to vegetation, the very best fruits have been introduced and cultivated with the utmost care, we had a sample of wine made from the Isabella and other kind of grapes grown on

the island pronounced by a gentleman from Madeira as a very superior article.

An address was delivered by the Hon. Obadiah Bowne, member in Congress from our district; it was an able, practical address and gave very great satisfaction to his fellow citzens, a copy of which I inclose.

The plowing match came off a few days after the fair. The competitors were eight of our best farmers, for two silver cups, and permit me here to digress a little. Three years previous was our first plowing match, our farmers came together with their old fashioned plows and the best they could do was to give a furrow about seven inches by five, and that by no means well turned, leaving the ground ragged and unequal.

At our present plowing match a number of elegant plows were introduced and a beautiful furrow, twelve inches by seven with much less draft well lapped, and the ground left in a fine state to receive the action of the harrow.

This improvement alone speaks well of the formation of agricultural societies; a new impetus is given in the whole department of agriculture, and the noble result is felt and appreciated by every member of the community.

Officers for 1853.—President, Ephraim Clark; Vice-Presidents, Daniel L. Clansen, James Guyen, William H. Vanderbilt, Lawrence H. Cortelyou; Treasurer, Charles L. Leveridge; Corresponding Secretary, Fredrick Olmsted, Secretary, C. L. Leveridge.

STATEN ISLAND, *December 20th*, 1853.

Dear Sir—Enclosed I forward an account of my corn crop, on a lot less than three acres of land, not for the purpose of competition, because, before I received your answer containing your rules, I had proceeded so far in my harvesting that I could not comply. My measuring was done as stated below, and although I believe it would, if all shelled at the time I shelled the seed, overrun rather than fall short, I do not expect you to notice it any farther than as I stated to you before; let you know what

we can do and are doing here, in the way of cultivating the soil. The lot has been surveyed by Judge Metcalf; a certificate from him of the quantity on which the corn grew is before me. and contains 2 acres, 3 roods, 31 perches and 194 feet. The lot was marked out in 57 rows; in harvesting, each 19 rows was cut up and measured separately; they were also calculated separately by Judge Metcalf. According to his certificate, the first 19 rows contained 429,12½ square feet, the second 429,99½ square feet, and the third 425,11 square feet. The corn was measured in the following manner: Two baskets, as near of a size as could be, were taken to the field, and none other; the corn was measured with them into the same wagon, which was found to hold 27 baskets. One of the loads was shelled and carefully measured, and yielded 17⅞ bushels clean corn. From the first lot of 19 rows, six such loads and ten baskets were gathered, making,

As measured,.....	114 bush.	00 qts.
From the second portion, 6 loads 9 baskets,..	113 "	11 "
From the third " 5 " 13½ " ..	98 "	10 "
From the whole lot, ...	325	21

I will now state the previous culture. Six years ago I had corn on the same lot, and reaped as much then as now within 5½ baskets, but the corn I then planted was a beautiful white variety, and did not shell over 15 bushels to the same sized load, which induced me to change for the variety I now have. I then manured the lot with guano, in the hill, and broadcast with fish, at an expense of $14 an acre; followed with oats, reaped 195 bushels; followed with wheat, with a moderate coat of manure, reaped 77 bushels; pastured from that time until last spring, when it was plowed for the present crop.

The lot was plowed in April, between five and six inches deep; harrowed and furrowed but one way, (I have pursued that plan for many years) a little inside of four feet. The average width of lot in feet is 223, marked in 57 rows, planted in the rows different widths, ranging from 18 to 24 inches, four grains put in a hill, three stalks left to grow.

The variety is a dented, 10 and 12 rows, deep grain, partly red cobs. The manure was from the hog pen, and put in hills, value $20; 29,000 fish spread on broad-cast, cost $21.75; fish applied about the time the corn appeared above ground; corn was plowed but one way, first when the fish was applied, from the hill twice in a row, next harrowed twice in a row, next plowed twice in a row to the hill, then hoed. At the time of hoeing the extra corn was not taken out, but was run over about two weeks afterwards for that purpose. Just before harvest the plow was again run through twice in a row; this was all the cultivation it had. The corn was cut up about the middle of September, had 14 loads of stalks, valued at least $4 a load for fodder or for sale.

I have answered some of your queries as well as I could; but not at the time of planting, nor since, in time, did I think of troubling your Society with any statement, although I determined to be a member. I have but a small farm, and have for a number of years been pursuing a plan without reference to competition, by which I could raise the most corn from the acre with least expense. I have entirely abandoned the plan of furrowing both ways, and am satisfied, by the present course, I can do better. My corn crop has varied in yield, for the last ten years, between sixty and ninety bushels the acre, a figure I could not reach the usual way, except occasionally; besides, previous to this year, I have planted a white variety, a beautiful corn, first in the New-York market, but shelled much less per load than what I now have. It is as good grain, but would not command the very highest price in the market. If an opportunity occurs I will send you a sample of both kinds. I find a home market for my corn, and therefore, quantity is to me important.

Poultry —I will now state an experiment I tried in the year 1851. It cost me some trouble, but is a source of satisfaction, inasmuch as it settles a dispute to my satisfaction at least, whether domestic fowls rae profitable or not. I commenced on the first day of January, 1851, with 115 fowls, including 8 cocks. I kept an account of all the eggs received from them weekly, with their market value at the end of each week; also all the chickens sold and used, at their

market value at the time. The receipts amounted to $178.50, with 115 left at the end of the year. I charged them with 120 bushels of corn, at 60 cents, making $75, thereby leaving a clear balance in their favor of $103.50. What stock does a farmer keep as profitable for the investment?

Very respectfully yours,

HERMAN B. CROPSEY.

B. P. JOHNSON, ESQ., *Sec'y.*

EXTRACT FROM THE ADDRESS OF HON. OBADIAH BOWNE.

It would ill become me at this time to attempt an instructive homily in the science of agriculture. Modern progression has not yet reversed the position of master and pupil. I am here but to learn, and to note what I have learned, to be instructed and not to instruct. In this view of the case, I will crave the indulgence of the intelligent farmers who surround me, in that I shall take but a passing notice of the advance of practical agriculture, and proceed at once to deduce therefrom some of the lessons which these things teach.

Here, however, let us first review the statistics of the county as shown in the last census. In this document we find our area estimated at 15,174½ acres of land in farms, exclusive of that appropriated to towns and villas, and valued at $1,620,360, or about one hundred dollars per acre—an estimate generally considered to be far less than the absolute value. Of this number of acres, 4,863 are reported as unimproved. If, as I presume is the case, our many acres of noble woodland are included in this category, I trust the day is far off when we shall be returned as having much additional improved land—a term perhaps much better rendered *unadorned.*

But to return to figures, which, however dry, may perchance prove more reliable than these pleasant glimpses down the vista of the future. We find our annual product of hay to be 5,642 tons; of wheat, 15,388 bushels; of rye, corn, and oats, about 74,000 bushels; of potatoes, 30,000 bushels; of barley and buck-

wheat, 4,000 bushels; while the produce of our orchards is estimated at $2,880, an amount, I am confident, quite too small. The produce of our market gardens is valued at $14,412. For the accuracy of this estimate I cannot answer, but am quite sure that if the amount of our garden produce is not, it should be much larger. It is true, we have given some attention to this branch of business; and more would have been bestowed but for the want of proper facilities for reaching market early. But surely this is an evil which will correct itself whenever the farmers of any considerable section of the county shall unitedly determine to engage in this business, they will find no lack of means of reaching a market in time to compete with their neighbors of Long Island and New-Jersey. Our close contiguity to the city of New-York would seem to impose it upon us almost as a necessity, to convert our farms into gardens. That it is a most profitable system of farming, needs no further proof than is to be had by crossing the Narrows, where land is selling for gardening purposes at rates as high or higher than those obtained here in those localities best suited to the demands of taste or wealth.

To return; the butter made in the county sells for $34,792; the product of the ladies' department, as is usual, exceeding all others in value, in proportion to the capital invested. Our live stock is valued at $81,215, and our farming implements at $46,480; strong evidence of the enterprise of our farmers; for we may safely venture the assertion that in few places could be found such perfection and variety in agricultural tools as to render them equal in value to half the live stock of the farm. If any are disposed to cavil at this, or place it to the account of idleness, or a desire for novelty, we will endeavor to show that we fully understand and appreciate that perfect tools and machinery save time, which to us is not only money, according to the proverb, but the means of enabling us to obtain what money alone cannot—taste, knowledge, and a correct appreciation of life and its purposes.

With the scientific and mechanical improvements of the day, as connected with agriculture, all now before me are acquainted. In no place are improvements in machinery, in seeds, in stock, in

the modes of giving increased fertility to the soil, all the concomitants of good farming at the present time more intelligently adopted than in the county of Richmond; and to few places are they better adapted. Forming, as this island does, one of the out-posts of the great city of the new world, and at all times in free and cheap communication with it, feeling instantly, and ready to take advantage of the slightest favorable symptom in its great moneyed pulse; here, if anywhere on this continent, are we prepared to test each new experiment, and practically to illustrate each deduction of science, which points the way to cheapen cultivation or increase the product of the land.

The richly endowed European seats of learning may more advatageously labor in the field of theory, and the hardy sons of New-England may bear away the palm of invention; yet how meager their r ward, but for that intelligence which appreciates, and liberality which adopts the result of their labor, both which form so prominent traits in the character of the Staten Island farmer.

With you, then, gentlemen, I leave these things, their history and their practical appliances, while I ask your attention to the social truths which machinery is aiding to develop. For none may deny, that while labor-saving invention and scientific results, tending to increased wealth, benefit the outer man, another and loftier system of wants is, by the same means, induced. With wealth comes the desire to use it. As man triumphs over the barriers of nature, comes a prouder sense of his position and standing in the scale of created beings, a more refined taste, a desire for intellectual cultivation, an enlarged philanthropy, a wider charity; the world becomes his neighbor, and the wants of man, other than physical, claim and receive his sympathy and his aid. It is this idea which should lend the charm which instinctively attracts our attention, and commands our interest, in every combination of wood and iron which performs the work of bone and sinew. It is for this we should hail with equal pleasure the Eureka of the student, as he announces to the world a new birth of his brain. In this onward march, of which these practical results

with which you are so familiar are but the advancing shadows, should we find our chief pleasure. Even the simplest improvement, applied to the commonest of our implements, speaks to us of the bright intellect which its new property may help to bring forward. Each new grain and flower bears the impress of intelligence on its brilliant surface, and gives glad promise of the children of a generation which shall be stimulated to yet further improvement, embracing a wider mental range. And for that I am a farmer, and would see my children in the same honorable calling. It is especially grateful to me to watch the rapid spread of tolerant, world-wide, lofty sentiments among the farmers of the land. Demagogues and sycophants have long sought to win the good offices of the farmer, with crediting him as the bone and sinew of the country. Did it never occur to them that the Nation's mind, its brain, its life, is the mind, the brain, the life of the farmer. Thank Heaven, wood and iron are rapidly being substituted for the incessant drain upon the bone and sinew, and leaving time for mind to think, to study, to act.

ROCKLAND.

Pursuant to the law entitled "An act to promote agriculture," passed May 5th, 1841, the following report of the condition and proceedings of the Rockland County agricultural Society, for the past year, is herewith respectfully submitted. It may be promised that the general interests of the society are on the advance, and that great hope is entertained by its officers and members that the society will continue to realize the hopes of its usefulness anticipated by the Legislature, in the act above referred to.

The usual preparatory meetings of the executive committee were held, to which the officers and members were invited, and a very general attendance of the officers was procured. Last year the movements of the board were principally directed to the general extension of the influence of the society throughout the limits

of the county, by efforts to increase the list of membership. In this year the board, from intimations previously given by some members of the American Institute, were encouraged to make overtures to that society for the holding of their plowing match, &c., in conjunction with that of the society. The offers made, which embraced the condition of furnishing suitable grounds at some place near the Hudson river, were accepted, and the society concluded to hold its annual fair in the immediate vicinity of the grounds so selected.

The ninth annual fair was accordingly held at Nyack, on a commodious lot, the center of which is very finely wooded, and commonly known as the Grove, and the plowing match on land adjoining, and admirably adapted to the purposes for which it was selected, which was generously placed at the disposal of the society by its owner, Mr. Peter Depew. A very general interest was manifested in the success of the display on this occasion, and though the weather was unfavorable, a very large attendance was secured on the second day of the fair, to witness the plowing and spading matches, to listen to the annual address which was delivered by W. W. Scrugham, Esq., of Yonkers, Westchester county, and the announcement of the awards of the judges, as far as perfected, and to the distribution of fruit, prize vegetables, and the like.

Reference is requested to be made to the report of the Institute, in regard to the success and details of the plowing and spading matches, as well as the general satisfaction they gave to the society and citizens present. It is hardly necessary to refer to the very cordial reception extended to the committee of the managers of the Institute, nor to the enthusiastic speeches made by some of their number. The day will be long remembered by many of our farmers, and its influences will, it is confidently believed, be felt in future exhibitions. At the conclusion of the annual address the following officers were elected for the ensuing year:

President, Col. Isaac Sloat, Blauveltville. Vice-Presidents, James Suffern, Ramapo; John C. Blauvelt, Orangetown; Daniel

D. Tompkins, Haverstraw; Jacob J. Eckerson, Clarkstown. Cor. Secretary, A. Edward Suffern, Haverstraw. Rec. Secretary, Samuel W. Canfield, Blauveltville. Treasurer, Mathew D. Bogert, Clarkstown. Executive Committee, Richard Coe, Clarkstown; E. Johnson, Spring Valley; J. R. Vanhouten, Orangetown; A. De Noyelles, Haverstraw.

E. JOHNSON.

ST. LAWRENCE.

In compliance with the provisions of the act "For the promotion of agriculture and household manufactures," I herewith transmit a report of the transactions of the "St. Lawrence agricultural Society," for the year 1852. This society was organized in January last, and its success has far exceeded the anticipations of its warmest friends. The fair was held on the 15th and 16th of September; the attendance was much larger than was expected, and the buildings prepared for the exhibition of farm products and household manufactures were on too small a scale. The farmers of St. Lawrence have become awake to the great interests involved in the pursuit of agriculture; they have for a long time neglected to develop her agricultural resources. No county in the State, not excepting Orange, can produce better butter or cheese than St. Lawrence; though it must be admitted many of her farmers, through ignorance and want of proper care and attention in the manufacture, lose a large proportion of the profits of the dairy. The cattle of St. Lawrence have become quite famous in the eastern markets, where they are generally sent. The native cattle are remarkably fine, and it is not uncommon to find them equal to the full-bloods. Durhams are the most numerous of the foreign breeds; next Devons, and a few Ayrshires have been brought into the county. It is doubtful whether the *finest* quality of wool can be raised in this climate, though the breeding of

the Merino, both French and Spanish, is exciting considerable attention.

For the few years past much attention has been given to raising spring wheat; but the last year large quantities of winter wheat have been grown, and with good success. The quality of the grain was good, and there has been a manifest improvement in selecting clean seed. Hay has not been two-thirds of an ordinary crop, on account of the want of the early rain, and the severe cold of the preceding winter. The deficiency in the hay crop is, however, likely to be productive of great good, by coercing the farmer to more economical modes of feeding cattle, and by extending the culture of roots. Oats have been a remarkably fine crop. Potatoes, since the opening of the Ogdensburgh railroad, have become an article of export; large quantites are sent to the east. The crop has been a very large one.

Though St. Lawrence is capable of producing all kinds of cereal grains, yet her agricultural wealth mainly consists in her rich meadows and pastures. The dairy and grazing constitute the wealth of the farmer.

The report of the Treasurer shows a cash balance on hand of about $800; the amount of money expended was about $600, including the expense of fencing and fitting up the grounds used for the fair.

The society became organized at too late a period in the season to offer premiums on such articles of produce as are mentioned in section 3 of said act, wherein is required certificates from producers, &c.; but with the exception of the certificates enclosed, appropriated its premiums to specimen articles of household manufacture, farm implements, farm stock, products of the dairy, and specimens simply of roots and seeds.

Respectfully submitted,

H. VAN RENSSELAER, *President.*

MASSENA, *January 7th*, 1853.

H. G. FOOTE, ESQ.

Dear Sir: Your favor is received. The two fat oxen that I received the premium on at our county fair last September, six years old, ¾ Durham, worth as working oxen one hundred dollars. I stall fed them last winter, gave them one peck provender per day each, say 182 days, makes 91 bushels, at 3s. per bushel, is,.... $34 25
four tons hay at $5 per ton,..... 20 00
pasturing last summer, ... 10 00
Profit, ... 10 75
Sold for in December last, ... $175 00

Two three-year old steers which I have raised, fed them milk until they were six months old, after that fed them one quart provender each per day through the winter, the next winter not any thing but hay, the winter after two-years old, four quarts provender through the winter each, making about 45 bushels at 3s. $16 88. All the expense in raising a pair of three-year old steers until they are fit for market is about $90. I sold the above steers for $125.

The oxen weighed, when sold, 4,220 lbs.; the steers 3,220 lbs.

U. H. ORVIS.

RENSSELAER.

Dear Sir: You inform me that you have the proceedings of our annual meeting. As those minutes set forth pretty fully the doings and the condition of the society during the past year, I can but glean a few facts in addition for your notice. The meeting was more numerously attended than any previous one, and the best spirit prevailed throughout its deliberations, and the renewals of membership and additions to life membership were larger than at any former meeting.

The advantageous purchase and location of permanent grounds and buildings for our annual fairs, has infused new energies into the society. The ground extends up to the track of the Troy and Boston railroad, thus affording greatly increased facilities for carrying stock and goods to and from the fair. The portion of ground enclosed by the buildings is about 250 by 285 feet. The main building is 77 by 125 feet, 24 feet posts, very high in the center, allowing for the display of carpets, oil cloths, and the like. There is one two-story brick building, 34 by 54 feet; one shed, 160 by 22 feet; one do, 110 by 23 feet; one do, 77 by 23 feet; one 250 by 12 feet; one 1½ stories, 42 by 15 feet. There is a large cistern in the open space, fed through pipes from a never-failing spring, on the hill east of the grounds. The buildings are substantial, and kept in good repair, ensuring protection to articles, of whatever texture, from injury by the accidents of weather. Ample ground for pasturage or other wants of the county or State society, in the immediate vicinity of the grounds, can always be had at a trifling expense. In view of all the facts and circumstances, in connection with the new impulse they have given the society, we feel confident that nothing but the fickleness of the elements can prevent our future annual exhibitions, both in amount and interest, from being far ahead of the best we have yet seen or known.

The display of fruits, vegetables, and other products of the farmer at the recent county fair, although not as good as we have seen, was still a very creditable one, considering the very unfavorable season for such productions, owing to the long continuance of extra dry weather. The display of cattle and horses was a good one; that of mechanical and manufactured articles pretty good.

The unfavorable weather alluded to, discouraged preparation for competition for the premiums on field crops; and as you will see by the minutes of the annual meeting herewith annexed, but little emulation was excited; two exhibitions of buckwheat, one of flax, and one of potatoes. All of which is respectfully submitted.

WM. HAGEN, *Secretary.*

Annexed are the Treasurer's report, and a synopsis of the minutes:

RENSSELAER COUNTY AGRICULTURAL SOCIETY.

Annual Meeting, January 25, 1853.

Society met at the Court House in the city of Troy, at 10 A. M., Richard J. Knowlson, president, in the chair. The minutes of the last annual meeting were read and approved. B. Starbuck, from the committee to examine the treasurer's accounts, reported that the committee had examined said accounts and found them correct. The treasurer, A. Van Tuyl, then read his annual report, which is as follows:

TROY, *January 25th*, 1853.

Annual Report of A. Van Tuyl, Treasurer of the Rensselaer County Agricultural Society.

In obedience to the provisions of the constitution of this society, the following report is most respectfully submitted:

Receipts.

Cash balance on hand January, 1852,		$119 18
Cash received of Treasurer of State of New-York,		180 00
do	for rent of booths,	93 00
do	of life members,	30 00
do	annual members,	464 00
do	for sale of gate tickets,	1,211 34
do	of Hartford Protection Insurance Co.,	1,201 79
With amount due the treasurer,		70 64
	Making,	$3,369 95

Disbursements.

Cash paid premiums,		$1,064 00
paid T. D. Stewart, towards pur. of fair grounds,		1,000 00
paid C. P. Ives for improvements of buildings and fair grounds,		487 00
paid treasurer's note,		229 53
paid B. Hancock,		90 00
paid for printing,		81 00

Cash paid for miscellaneous expenses, ...	268 42
paid secretary's and treasurer's salary, ...	150 00
Making,.....	$3,369 95

The amount of premiums awarded at the last annual fair was, cash $1,103. Sixty (60) diplomas, and 17 volumes Transactions.

The following table shows how the premiums were awarded:

Amount awarded on cattle, (and 1 vol. Trans.).....	$238 00
on horses, ...	127 00
on sheep,.....	60 00
on swine,.....	34 00
farm implements, (10 dip. and 3 vols. Trans.)	89 00
on household products,.....	42 00
on butter and cheese, ...	21 00
on garden vegetables, ...	31 00
on fruit, (and 1 vol. Trans.)	46 00
on flowers, ...	90 00
on bees and honey,.....	14 00
on ladies' department, (and 1 diploma).....	78 00
on the mechanical department, (and 18 dip.)	112 00
on stoves, ...	13 00
on poultry, ...	38 00
non-enumerated articles, (31 dip. and 6 vols. Trans.)	67 00
	$1,103 00

Table showing the residence of annual members:

Lansingburgh has,.....	188
Troy,.....	78
Brunswick, ...	44
Pittstown,.....	39
Schaghticoke,.....	35
Greenbush,.....	16
Schodack,.....	8
Sandlake,.....	6
Hoosic,.....	4

Nassau,	2
Berlin,	3
Grafton,	1
Petersburgh,	1
Stephentown,	1
Poestenkill,	1
Saratoga Co.,	17
Albany Co.,	6
Washington Co.,	7
Massachusetts,	3
Schenectady,	1
Georgia,	1
Pennsylvania,	1
Texas,	1
	464

There were one hundred and one (101) life members, belonging to the society, forty eight (48) reside in the city of Troy, and the remaining fifty-three (53) reside in the county towns, to wit:

Brunswick has,	15
Lansingburgh,	14
Greenbush,	8
Schaghticoke,	6
Nassau,	2
Pittstown,	2
Hoosic,	4
Sandlake,	2
	101

It is doubtless known that on the 14th day of June last the society buildings at the north part of the city were destroyed by fire, which left the society destitute of the necessary buildings for holding their annual fair. The buildings were insured in the Hartford Protection Insurance Co. for $1,200, which has since been paid, and appears in a former part of this report.

It should also be stated, in order to have a full understanding of the condition and wants of the society at the time, that the

lease the society had of the ground they occupy at Batestown, expired in two years from last fall, rendering it impracticable to rebuild upon said ground unless the lease could be extended at least five years. An effort was made by the executive committee to procure a lease for a further time, but it was found impossible to accomplish it; no owner or other person could be found who had authority to lease only from year to year. The executive committee then resolved to erect temporary buildings, and hold the fair upon the old ground, ina much as they had not the necessary funds to purchase them, here or elsewhere.

Upon mature examination and estimates made, it was ascertained that the expense of erecting temporary buildings would be very considerable, and they would be entirely unsafe, in the event of a storm of rain or wind during the fair, and nearly the whole amount of said expense be lost to the society. It was finally resolved that the interests of the society would be promoted by the purchase of ground and the erection of permanent buildings for the accommodation of their annual fairs for time to come.

Several pieces of land were offered and examined by the executive committee, but no one piece which they deemed advisable to purchase until their attention was called to the Novelty Works, or Ives' packing house, in the village of Lansingburgh, containing seven acres of land or thereabouts, with buildings sufficient for all the purposes of the society, which was purchased at a price believed to be below its fair cash value, costing only $1,650, nearly fitted for the use and accommodation of the society at their last annual fair.

It should be borne in mind that even this favorable purchase would have been entirely beyond the means of the society, had not the trustees of the village of Lansingburgh, with a liberality worthy of all praise, stepped forward to the relief of the society, and bound themselves and their successors in office, to pay $1,500 of the purchase money, leaving for the society to pay for the whole of the valuable estate, only $3,150. Of this sum the treasurer has paid $1,000. There are outstanding notes for the balance of the purchase money amounting to $2,150, with interest

from September last. The society are bound to make provision for the payment of this sum, to wit, $2,150 and interest.

It is not the province of the treasurer to suggest in this place the manner best adapted to raising the necessary funds for this purpose. But he will venture to urge upon the society the adoption of some plan, or measure, that shall secure the end desired, it is of vital importance to the future welfare of the society.

The true financial condition of the society may be stated as follows:

Due the treasurer,.....	$70 64
Premiums and bills unpaid,.....	180 26
Amount of purchase money unpaid, with interest.....	2,150 00
Debt of the society,.....	$2,400 90

The premiums that may be awarded on field crops can be paid with the money the society will receive from the Treasurer of the State.

A. VAN TUYL, *Treasurer.*

M. P. Coons moved that the president appoint a committee of one from each of the country towns and four from Troy to nominate officers for the current year. The committee retired and on their return reported the following ticket of officers:

For President, John M. Mott, of Lansingburgh; Vice-Presidents, Geo. Vail, John H. Willard, Benj. Starbuck, John J. Viele, Troy; E. N. Pratt, Greenbush; J. E. Stearns, Schodack; Seth Hastings, Nassau; D. G. Maxon, Petersburgh; C. P. Carpenter, Stephentown; R. J. Knowlson, Sandlake; J. E. Whipple, Lansingburgh; Martin Springer, Brunswick; T. B. Wilds, Grafton; Joseph Haswell, Hoosick; Wm. Newcomb, Pittstown; I. T. Grant, Schagticoke; Jacob Minick, Poestenkill; B. Streeter, Berlin: Treasurer, Abraham Van Tuyl, Troy: Secretary, Wm. Hagen, Troy.

Executive committee; Henry Warren of Troy; B. B. Kirtland of Greenbush; Hugh Rankin of Troy; Henry A. Mercer, of Lansingburgh; M. P. Coons, of Troy.

On taking a ballot the ticket reported by the committee was unanimously elected. The following resolution was offered.

Resolved, That the buildings and grounds of the Rensselaer agricultural Society be tenderd to the State Agricultural Society to hold their next annual fair; and that a committee be appointed to present the offer to the State society at their next annual meeting. Adopted, and John M. Mott, Geo. Vail, E. N. Pratt, C. P. Ives, H. Rankin, and A. R. Fox, were appointed the committee.

A motion to appoint five delegates to a State Convention to be held at Albany in February on the subject of an agricultural school was adopted, and Wm. Newcomb, Henry Warren, Daniel Wright, M. P. Coons, and A. T. Twing were appointed the delegates.

Resolved, That the thanks of the society be tendered to Richard J. Knowlson for the intelligence and zeal with which he has discharged the duties of the office of president of the society the past year; and also for the appropriate address just delivered; and that he be requested to furnish a copy of said address for publication with the proceedings of this annual meeting. Then on motion the society adjourned.

WM. HAGEN *Secretary.*

EXTRACTS FROM ADDRESS OF MR. KNOWLSON, PREST.

The business of the society being gone through with, the president delivered his annual address.

Influence of the Society.—It is gratifying to learn, that of late years, there has been a gradual awakening among farmers, to the importance and beneficial results of this society. No one can compare its small beginnings with its present commanding influence, or the backward state of agriculture, at its commencement, with its present prosperous condition in this county, without being favorably impressed with the happy tendency of such an organization. Yet to me it appears that many have so far misconceived its design and tendency, that a few moments may be properly

spent, in directing your attention to the objects which we may reasonably expect, through such associations, to secure.

There are many enterprises, both individual and associated, the direct object of which is to accumulate wealth, and realize independent fortunes. But this is not one of them. It is in no respect, either for the whole or a part of its members, a mere money-making institution. Nor should a direct tendency to add a farthing to any man's estate, be numbered among the beneficial results that may be anticipated from it. Its influence is general, diffusive, prospective, and indirect. It is designed not to pour wealth into the laps of the indolent, uninformed, or the mere speculator; but to awaken such an interest in, and pour such a flood of light upon agricultural pursuits, that an intelligent, active, enterprising yeomanry, may turn their lands with their products to the best advantage, and realize from them, not a bare subsistence, but a competency, and even more than a competency. It does not depend upon the award of premiums, whether the members of this society and the community at large are to be benefited by it. Its best gifts to the public are more intangible, but not less real and substantial, than dollars and cents. The awards of premiums are useful incentives to exertion, to patient toil and careful attention to business; but they should be regarded as the mere incidentals, and not the essential or important features of this society.

It performs its great mission and exerts its most salutary influence in exciting a general interest in the pursuits of the husbandman, the great source of subsistence for the human family; and yet a subject that in all ages has been strangely neglected and undervalued, and suffered to languish for the want of even moderate encouragement and intelligent support. The gains of the farmer are slow, and are secured at the expense of labor, toil, and sweat of the brow. Compared with the sudden affluence, occasionally realized from commerce, and the distinguished position occasionally gained in the learned professions, his occupation appears to offer few inducements to the intelligent and enterprising young man.

But this is not its necessary condition. Were husbandry properly conducted, it would be the most attractive of all avocations.

But so long as it is conducted without order, system, or regard to neatness, without the application of chemistry to the tillage of the soil, or of mechanics to the perfecting of the implements of husbandry, in order to lighten the labor of the producer; so long we must expect that our aspiring young men will forsake this handmaid of national prosperity and virtue, and wed themselves to satins and broadcloth, to the musty folios of a law office, or even to the offensive nostrums of a drug shop, rather than inherit the free breezes, the fresh flowers, the limpid springs of their paternal estates. There is nothing to interest one in the life of a mere drudge. If it is a fact, as some will still insist, that it requires no intelligence to till the soil and develop its resources, then its interests must be and ought to be committed to the ignorant and uninformed. How can we expect that earnest, thinking men, will be satisfied with an employment that affords no play to their energy and intelligence?

It is but a few years since this fallacious impression has begun to disappear. It is now being understood, that in order to the highest, or even to moderate success in farming, a high order of intelligence is requisite. It is no longer a question, whether agriculture is worthy of the attention of the most gifted minds, or whether an education adapted to its successful prosecution is desirable. These are settled points, at least with the observing and thoughtful. And they have been settled, mainly by the influence of those who have been earliest connected with, and most earnestly engaged in promoting agricultural associations. Their connection with and interest in those societies, have stimulated them to devote their best energies to increase the productions of the soil, to secure the best and most profitable stock, to encourage the invention of the most perfect, convenient, labor-saving implements.

They have sought information, they have put their lands in the best possible condition; they have made accurate experiments as to the best modes of cultivation; they have estimated the art of securing the largest crops, compared with the expense of the meager gleanings of an unenlightened husbandry; and have presented the final results of their labors and experiments before agricultural gatherings at the annual fairs. Their results, it is well

known, have been flattering and instructive. They have taught us that we have only begun to realize the profits which may be derived from landed property, when it is judiciously and scientifically managed. From these centers of intelligence and interest on agricultural subjects, an influence has gone forth, which like leaven, has leavened the whole man.

With expansive and liberal views of the wants of the farmer, one of my predecessors, distinguished for his interest in this society, has thus been incited to lay foreign countries under contribution to increase the quality and value of our stock. By a practical example, he has taught us a truth that ought to have been very obvious; namely, that it cost no more to keep a good animal, than it does a poor one; that the poor man that has but one cow may just as easily realize $40 a year from it as $20, provided he will take pains to select from stock best adapted to his purposes. It is certain that many a family within our county would be much less comfortable than it now is, had no improvement been made in the quality of our stock. *

Nor has the influence of such societies been less marked or less important, in inciting ingenious men to exercise their skill in improving the implements of husbandry. He who can look back twenty-five years, and compare the present finished, convenient, labor saving implements, with the rough drafts and uncouth forms that dragged their slow lengths along over the fields, with immense labor, both to the farmer and to his burthened team, will appreciate something of the advance that has been made during that period. Between the farming utensils of the present day, and those used at that time, there is scarcely less difference than there is between the elegant chairs and sofas in your parlors, and those primitive seats used by our rude ancestors, when

> "Joint stools were first created: on three legs
> Upborne they stood. Three legs up, holding firm
> A massive slab, in fashion square or round."

The wonder is that men lived and drudged so long with those

* As an example in point, I find that a man in my employ has realized for several weeks past in mid-winter, ten pounds of butter per week from a single cow, besides supplying his family with an abundance of milk for ordinary use. This is a fact scarcely worth recording at the present day; but 25 years since, in any country community, it would have been regarded as almost the eighth wonder of the world.

clumsy tools. The wonder is, that outraged nature did not cry out against the burthens imposed upon man and beast, in the shape of these ill-looking and ill-working utensils.

But had not a new interest been awakened, and a new impulse been given to agricultural pursuits, through associations designed to advance their interests, we know not, but they would have lain about our farm houses to this day; and that we should now see the rough wood plow; the corn-fan, about the size of a summer hat; the miniature hand-rake, and the barn flail, which then comprised the substance of farming gear; instead of the elegant Starbuck Trojan plow, the admiration of examiners at the World's Fair; the cultivator; the justly celebrated Grant's fanning mill, that has such cleansing powers, that it scarcely leaves the bran in your wheat; the comprehensive horse-rake, and the laborious thrashing machine, besides numerous other inventions which are contributing to relieve the farmer of drudgery, to save his products, to facilitate the gathering and curing them, and which are really ornaments to his establishments.

There is another object which these associations are tending to accomplish, and which should engage the earnest and immediate attention of all interested in the progress of agriculture. We have as yet but imperfect specimens of the highest grades of husbandry, and of the most perfect arrangements for a farming establishment; and these are not open for the inspection and experimental study of the young men of our great and prosperous State. There is greatly needed a model farm in connection with a model school open to our youth in order to prepare them for a successful entrance upon agricultural labors. There are at present no available facilities for an education at all adapted to fit them for this laborious, but useful and honorable calling. The State in its legislative capacity has entirely overlooked the vast importantance of this branch of industry. It lends a listening ear to the petitions of all classes of producers, and of professional men, except the farmer; and him it often taxes to protect the more showy, but less useful branches of labor. To aid the aspiring to enter a professional life, it has been profuse in its bounties. It has appropriated funds, without stint, to found colleges, medical institu-

tions, female seminaries, free schools, and benevolent institutions. It has furnished efficient aid to promote commerce, to facilitate the navigation of rivers, and to render our harbors safe and secure. It has dug canals, and built railroads. It has protected manufactures of every description. Of this we do not complain. It should exert a fostering influence upon the interests of the entire population. It is not that the State has done too much for these; but that it has done vastly too little, indeed almost nothing for the paramount interests of agriculture.

Agricultural Education—Should not the policy be changed? Is it not obviously a mistaken one? Is it not time for the Empire State to set the noble example before her sister States, of making a liberal appropriation for an agricultural school and farming establishment, in which the most perfect systems of husbandry shall be exemplified, and the principles and practice of the art be thoroughly taught?

It is not anticipated that all, or even a large number comparitively, of the young men of this State who may choose farming as an occupation, would obtain access to this institution. Nor is this necessary, in order to render it efficient and useful to the community at large. Knowledge is diffusive, and especially so in this age of activity and inquiry. A very few well-informed persons, instructed in such a school, would carry all the improvements, inventions and discoveries there made, perfected, or brought into notice, into every county in the State, and would quietly, without expense, introduce them to the notice of the millions simply by their own practical application of them to farming purposes. A single well conducted farm cannot, for a long time, remain isolated. We are imitative creatures; and when money is to be made by the operation, Yankees are said to have an astonishing propensity to imitate perfectly and speedily. Where there is one such farm, there will in a few years be twenty more beside it in a similar condition. Let there once be a model, and and it will not be slow to arouse an honorable and effectual competition. But this can be obtained in its highest perfection only by the establishment by the State, of an agricultural farm and school, at which all the principles of science and art applicable

to husbandry shall be discussed minutely and applied practically. A voice should go up to our present Legislature from every agricultural association in the State, in favor of such an institution; for on them it will mainly depend, whether or not, it shall be put in successful operation.

And as this movement is seconded by the generous recommendation of Gov. Seymour, and the able committee of the Assembly are supposed to favor it, we may cherish a thorough hope, that the application will not be in vain.

By awakening interest and diffusing information, in respect to this great source of wealth, these societies are conferring an inestimable benefit on the farming community. They have added dignity to their occupation, it is in this name that it must be elevated to that rank among respectable avocations to which it belongs, and to which it is destined. Nor can we doubt that the time is at hand when it will take the first rank among active employments.

It is the acknowledged basis of national prosperity, but if it be suffered to languish and decay, the superstructure, however fair its proportions, will not long stand firm and unmoved. In a republic especially, much depends upon the virtue and intelligence of the yeomanry, and their influence in the national councils and in the affairs of state. An usurper, as the history of the past few months emphatically teaches, can easily get control of a single city; and if there be not intelligence, energy, virtue, and self-respect in the country population, by the fall of that great city, an empire can be consolidated without either great abilities, or great victories. How important it is that the intelligence, virtue and enterprise of a nation should not be centralized wholly in one or in several cities, is evident from the results of the American Revolution. All our populous cities, at different periods of the war, fell into the hands of the enemy; but with them, fell not the country. It was safe, although our cities were taken, and our harbors filled with hostile fleets, it triumphed under the guidance of her matchless chief, even when our metropolis was in the possession of British soldiers.

Nor is it irrelevant to remark in passing, that that chief, the father of his country, was early trained to agricultural pursuits, and that he devoted some of his earlier and his latter years, (when relieved from public cares, and the turmoils of political strife) to the calm, contemplative, and ennobling employment of the husbandman. Such a man would dignify any occupation. But we need living examples. We need present efforts to throw around it such an influence, that our young men will not be ashamed to own, that they are farmers. By adding dignity to the labors of the husbandman, by elevating it to the rank for which heaven designed it, by awakening interest in its progress, by increasing the productiveness of the soil, we are erecting for our country its surest, safest, cheapest defence.

It was said by De Witt Clinton, that the State of New-York alone is capable of sustaining twelve millions of people; a remark indicating in a remarkable degree, the far-reaching foresight of that distinguished statesman. For it was a prophecy of the progress of agriculture, when very little had been done to develop the resources of the State, and to show the immense increase in productiveness of which the soil is capable. To the men of his day, this sentiment doubtless appeared visionary; but to us who have witnessed the progressive improvements in farming, and who are thus prepared to judge of its future advancement, it may appear even short of the reality. And when we consider the tide of emigration constantly flowing from the old world to our shores, it is interesting and pleasing to reflect, that they are coming to a country whose population, in the oldest and mostly thickly inhabited states, is vastly less than they can support. They are not yet filled up with a superabundant population, that crowd upon each other to snatch the mere crumbs of subsistence.

SARATOGA.

In obedience to the requirements of the law making it the duty of the presidents of the several county agricultural societies in this State "to transmit to the Executive Committee of the New-York State Agricultural Society, all such reports or returns as they are required to demand and receive from applicants for premiums, together with an abstract of the proceedings during the year," the undersigned, acting in behalf of the president of the Saratoga County agricultural Society, submits the following

Report:

Very little attention has been paid by our society to that provision of the law, requiring statements in writing from competitors for premiums, containing a description of the process in preparing the soil, or feeding or fattening the animals, &c., for the reason that, probably, no essential or important discovery has been made, and no new and useful information would be derived therefrom.

The cause of agriculture in this county, like everything else, is progressing. Antiquated ideas and notions of farming are giving way to the practical experiments of modern times. The farmer begins to discover that *science* may be applied to *his* as well as *other* vocations; that there may be *theory* in tilling the earth, as well as in everything else. A few, who have seated themselves in their chimney corners, and cling with unyielding prejudice to systems of a century ago, are here and there lingering among us, more as a source of *amusement* than *instruction*: but the great mass of our agricultural population are willing to acknowledge that the lights of science are as useful to agriculture as to the mechanic arts. The man who, by the aid of labor-saving implements, can produce four times as much *now*, at the same expense, as he could forty years ago, is hardly willing to admit that our farmers had obtained all the wisdom in the world before the utility of mechanism and steam had become known. The great struggle between ignorance and prejudice on the one hand, and intelligence and reason on the other, is about over in this coun-

try. Our farmers have found out that there are certain rules relating to the cultivation of the soil, without the observance of which, much of their labor is thrown away. The promise of "seed time and harvest" is not, of itself, sufficient to insure good crops. Something depends upon the way and manner in which the work of the husbandman is performed—upon the seed he uses, and the time upon which it is planted; the manures he applies, the condition of the soil, and the method of cultivating and securing his crops. A blind adherence, for instance, to the 10th day of May, as the old rule for corn-planting, would, in most cases, be fatal to the crop. So, too, the application of hot and dry manures to our light sandy soils, would be of very little use. Some soils require one kind of manure and one system of tillage, and some another. An intelligent, well-informed farmer, would understand all these things, and manage his farm accordingly. It requires no practical experiment to prove that a succession of a certain kind of crops would soon exhaust the soil, nor that without manuring, any lands in this section of the country will stand constant croping for any considerable length of time. An equivalent to what is taken off must be returned.

The farmers of the county of Saratoga are not behind any others in the knowledge of cultivating and fertilizing their lands, nor in the growth of products of the fields, nor the quality of the stock which they raise. They can exhibit as good cattle as any other county can produce. This county has the reputation of being one of the best pork-growing counties in the State. In horses, too, we are not inferior to any of the rural districts. Their local pride is aroused, the spirit of improvement is abroad, and this county may be put down as one of the best agricultural portions of the State in all the branches of that useful, healthful and dignified employment.

Our county society is doing much to stimulate and encourage our agricultural population. Its annual fairs call together large numbers who become at once interested in the exhibitions and go home with a fixed determination to enter the list of competitors for the next year's premiums. They see new inventions, new and desirable productions, hear new suggestions, get new ideas, and

thus treasure up a fund of information which qualifies them to be better farmers thereafter. These annual gatherings are a source of mutual instruction and mutual benefit.

The first meeting of the executive committee of this society, during the past year, was held on the first day of March last, at which time a premium list was adopted, inviting competition on crops, on horses, on cattle, on sheep, on swine, on butter and cheese, on household productions, on mechanical productions, on plowing, on fruits, flowers, vegetables, and indeed on almost everything grown or manufactured in our county. By a regulation of the committee, competition, to a limited extent, was invited from other counties. The money premiums thus offered amounted, in the aggregate, to some $700 or $800; the third premiums, generally, being the Transactions of the State Society, a very valuable and useful work. The judges, or examining committees, were appointed at this meeting, and all the preliminary arrangements for the annual fair were here made and perfected. The 15th, 16th and 17th days of September were designated as the time for the annual exhibition. No other meeting of the committee was held till the annual fair.

The 12th annual fair and cattle show of this society, was held at Mechanicsville at the time above stated, and in point of excellence was all that the friends of the society or of the cause of agriculture could reasonably desire.

By a very judicious arrangement of the society, the first day, as usual, was devoted exclusively to the entering, registering and arranging the animals and articles designed for exhibition.

The exhibition of horses was unquestionably better than at any previous show of this society, and the only mistake was in permitting any of them to be taken away before 12 o'clock of the last day of the fair. Fifty-four entries were made in the two classes of horses, and premiums were awarded by the judges on horses to about $70.

The show of cattle was tolerably good, embracing some 43 entries, and drawing premiums in the aggregate of nearly $100.

Only 14 different entries were made in the department of sheep, but these were exceedingly good.

The plowing match was well contested.

In swine, the exhibition was slim in quantity, but of superior quality.

In the exhibition of butter and cheese, the effect of the severe and protracted drouth was more apparent than in any other department of the fair.

The exhibition of agricultural implements was very good. The farmers of this county keep pace with the improvements in labor-saving implements, and the collection at this fair was well calculated to stimulate the cultivators of the soil to renewed economy, in seeking to obtain the best labor-saving machines for almos every kind of work required on their farms.

In the mechanical department 18 entries were made, and the exhibition in this branch under the circumstances, no specified premiums being offered, and the aggregate of all being limited to $40, was really meritorious.

In the miscellaneous department, where everyting is registered that is not provided for under any other class, 45 entries were made. This was in fact one of the best features of the fair, and showed that the exhibitors were not afraid to come forward and take their chances.

Thirty-five entries were made under the head of foreign stock and articles; that is, animals and articles exhibited from other counties.

In the floral department 64 entries were made, embracing just so many varieties or designs of flowers. In this the exhibitors displayed unusual good taste, and too much praise cannot be awarded for the interest they manifested, and the matchless skill they exhibited, in this branch of the exhibition. The floral department excelled that of the last State Fair at Utica.

In fruit the exhibition was very satisfactory, embracing the different varieties.

In household productions the exhibition was much better than heretofore. The articles in this department seem to grow better and better every year. This, like the floral department, belongs to the ladies, to whom all credit is due for the superiority and excellence of the show. The entries numbered 146.

The exhibition of garden vegetables was very good. About 70 different entries were made under this head, of superior qualities.

The society and assemblage were called to order by the president of the society, at 2 o'clock on the third day, to listen to the annual address, the report of the committees, and to attend the election of officers.

The address was delivered by B P. Johnson, Esq , Secretary of the N. Y. State Agricultural Society, which occupied about an hour, and was listened to with deep attention. His remarks were plain, practical and instructive, evincing much thought and reflection on the part of the speaker, and that familiarity with the subject which gave power and effect to what he said. At the conclusion of his address, the following resolution was unanimously adopted:

Resolved, That the thanks of this society be tendered to B. P. Johnson, Esq., for his able and instructive address on this occasion, and that a copy thereof be requested for publication in pamphlet form.

It is a source of regret with the committee, that this request was not complied with, that all the farmers of this county might have had the privilege of reading one of the most practical speeches the society has listened to in many a day.

Officers for 1853.—President, Silas G. Smith, Stillwater; 1st Vice-President, Samuel G. Eddy, Stillwater; 2d do, Jesse H. Mead, Galway: Treasurer, Reuben S. Burtis, Mechanicsville: Cor. Secretary, Cramer Vernam, Mechanicsville: Rec. Secretary, John A. Corey, Saratoga Springs; with an executive committee of two in each town.

The following persons were appointed delegates to, and ex-officio members of, the N. Y. State Agricultural Society for the ensuing year:

Lewis E. Smith, of Halfmoon; Samuel G. Eddy, of Stillwater; H. D. Chapman, of Saratoga; George B. Powell, of Milton; P. Burnett, of Mechanicsville; Tyler Dunham, of Stillwater.

The reports of the committees were then read, upon which premiums were awarded to the amount of about $700, including about 20 volumes Transactions N. Y. State Society.

The executive committee held a meeting during the fair, for the purpose of filling vacancies in the list of judges, and auditing a few bills for incidental expenses.

The regular winter meeting of the executive committee was held at the Court House on the 14th day of December, for the purpose of awarding premiums on crops. The weather was extremely unpleasant, and the attendance slim. There was but one applicant for premium, and his was on two acres of wheat. Of course he was successful, and received the first premium.

The following are the receipts and disbursements from the treasury during the year:

Receipts.

1852. July 5.	Rec'd from Comptroller, State appro.,	$121	00
Sept. 17.	" from S. E. Paine, life mem.,...	10	00
"	" from E. McKinney, contribut'n,	11	00
"	" from B. Badgley, "	8	00
"	" from 408 memberships (yearly)	204	00
"	" for registering entries for exhib.	127	00
"	" for admission to show grounds,	111	92
Dec. 18.	" from Comptroller, State appro,	121	00
		$713	92

Disbursments.

1852. Sept. 17.	Paid premiums and incidental exp.,	$604	92
	Leaving balance in treasury, ...	$109	00

All which is respectfully submitted,

J. A. COREY, *Secretary.*

SCHOHARIE.

The Schoharie County agricultural Society held its annual fair at Middleburgh, October 6th, 7th and 8th.

The exhibition of stock, agricultural products, and miscellaneous articles, gave unmistakable evidence of a growing interest in the improvements of the day. The articles of domestic manufacture were extremely creditable to the ladies of the society.

On Friday afternoon the society met at the Lutheran Church, when, after prayer by Rev. Mr. Cornell, a very able and interesting address was delivered by the Rev. Dr. Lintner, which was listened to with great interest by a large and highly gratified audience. The thanks of the society were tendered to Dr. Lintner, and a copy of his address was solicited for publication, and was subsequently published in the journals of the county, and was read with approbation by multitudes who had not the privilege of hearing it.

Officers for 1853.—President, John P. Griggs, Schoharie; Vice Presidents, Joseph J. Brown, Nicholas Russell, John Fremire, George Manning, Griffin Whipple, Isaac W. Baird, Frederick Shafer; Secretary, William H. Davis, Schoharie; Treasurer, J. A. Lintner, do.; Executive committee, Jacob Vroman, M. L. Shafer, Wm. Winters, J. S. Waterbury, S. Maham.

EXTRACT FROM THE ADDRESS OF REV. DR. LINTNER.

Thirty-three years ago I was present at the formation of this society. William Beekman, first judge of the county, under the old Constitution, was chosen president, Henry Becker, vice president, John Ingold, treasurer, and Isaac Barber, secretary. Elkanah Watson delivered an address, and I well recollect the attention and interest with which that address was listened to by the concourse of farmers who had gathered from all parts of the county, and filled the old brick church at Schoharie. The officers of the society, and the speaker who addressed us at the first meet-

are all dead; and of those who were present on that occasion, and gave the first impulse to the operations of this society, but few remain. Since that time great changes have taken place; one entire generation has passed away, and I now see before me the sons and descendants of the hardy and industrious race of farmers who first settled this region, and contributed their share of toil and suffering in laying the foundation of the civil and religious blessings we enjoy.

The anniversary of this society naturally suggests thoughts connected with our past history. It carries us back to the period when agriculture was in its infancy—when it possessed none of those advantages which are derived from modern discoveries and improvements; when our fathers settled down in the wilderness, and made the first attempts to cultivate those fields which now yield such rich and abundant harvests.

Schoharie was settled by German Protestants, who fled from the oppression of European despotism, to seek an asylum on these western shores, where they might worship the God of their fathers, without any one to molest or make them afraid. They were a part of that colony who were transported from Germany by the Queen of England, and located on the shores of the Hudson river, in the year 1709. In 1711, about fifty families emigrated to Schoharie, and made the first settlement on the spot where we are now assembled, and its immediate vicinity. This beautiful valley was then a wilderness. There were no cultivated fields, no stately mansions, no temples of worship, no such rich and beautiful landscapes as are now spread out before the eyes of the beholder, nothing but the wigwam of the savage and the dense forest, the rugged mountain, and the wild beast pursuing his prey, or fleeing from the shaft of the savage hunter. Into those wild scenes our fathers entered, without anything to shield them from the perils of the enterprise, but the protection of God, in whom they trusted. Like the Pilgrim Fathers, they were driven out by the hand of oppression to seek a refuge in the wilderness. They came poor. They had none of the facilities for agriculture which we enjoy, no such labor-saving machines as the genius of the present age has invented. But they had the

strong determination and patient endurance of the German race, and this was worth more than all the inventions of modern art. It throws men upon their own resources—it makes them feel that they must rely upon their own efforts, and when men feel so, they will succeed in whatever they undertake. This feeling was evinced by the pioneers who cleared away the forest, and first cultivated these fields. It was a noble trait in the character of the first settlers of Schoharie. They had not the education and refinement of those who came after them, and enjoyed greater advantages; but they were men of strong minds, fearless and resolute, who could face danger and endure suffering, without yielding to despondency—men of sterling integrity, who were determined to live by their own industry, and sustain themselves by their own exertions. They were a noble, generous-hearted race, who always had a home for the stranger, and from whose door the beggar was never turned away empty. They were true to their country and the interests of the government, which had protected and assisted them in their emigration and settlement. They fought in the French war to sustain the honor of the Queen, whom they regarded as their patron and friend; they freely shed their blood in the battles of the Revolution. The gallant defence of the old fort, which remains to this day a monument of noble deeds; the battles of Cobleskill, of Durlach and Harpersfield, where the Hagars and Schafers and Warners and Browns contended against their savage foes, will be held in remembrance as long as the love of liberty is cherished in Schoharie. They were a band of patiots as true as any other in the country; they rendered as great services as any friends of liberty in ancient or modern times. They suffered the destruction of their property, the desolation of their homes, the captivity and massacre of their families, that they might leave to us that precious inheritance which we enjoy. I speak of these things, of the sacrifices and sufferings of the first settlers on this soil, because it is due to their memory. We owe them a debt of gratitude which we can never repay. And while we are in the full enjoyment of the plenty and prosperity, which, under the blessings of heaven we have derived from them, we should not forget to honor them for their virtues, and the rich inheritance they have transmitted to us.

Agriculture is the most ancient and honorable employment of man. It is the employment which his Creator designed for him, when he placed him in the garden of Eden to cultivate it. And when man fell from that state, his destiny in regard to agricultural employment was not changed. The ground, it is true, was cursed—it brought forth thorns and thistles, and man was doomed to eat his bread in the sweat of his brow, but still it was the will of God, after he was driven out of Paradise, that he should be a cultivator of the soil. This occupation he has pursued in all ages of the world, in all conditions and circumstances in which the providence of God has placed him. It is the employment which is natural to man; and it seems that there is no other pursuit for which he is so well fitted by his constitution and habits.

Agriculture is the basis upon which all the other arts and occupations must depend for support. Without it, mechanics and manufactures, and labor and all the useful and ornamental arts in which men are engaged cannot prosper. The earth must yield her supply for all these. The materials must be furnished by the cultivators of the ground. If this great motive power, which carries forward all the other enterprises of civilized life ceases, the whole machinery must stop, and universal stagnation and ruin ensue. But let agriculture prosper, and all other business will flourish; commerce and manufactures, and all the useful arts will be encouraged, and the whole community share in the benefits arising from the successful cultivation of that art which imparts life and vigor to all business. * * * * * There is no occupation which holds out higher inducements for moral and intellectual distinction than the cultivation of the soil.

There are three indispensable requsites which must be understood and practiced by every farmer, if he would succeed in his business—industry, economy, and system. Without these, no business can prosper. Men may form schemes, calculate upon a thriving business, and flatter themselves gratified, without considering their resources, and thus many farmers, who might be in comfortable and prosperous circumstances, are impoverished and ruined by a system of extravagance, inconsistent with their business and the duties which they owe themselves and their families. The want

of economy has caused most of the failures in business which have brought distress and anguish into so many families. It is a great evil in the present day, when there is such a prevailing tendency to reckless and extravagant expenditures. Every respectable man in community should set his face against this evil, and show by his example, that a rigid economy is necessary for success in any business in which we may be engaged.

No man can expect to be successful in business without system. His business must be well understood; a plan must be formed, and this plan must be well digested; it must be properly arranged, the work must be performed at the right time, the buildings must be so constructed as to render them most useful. Every utensil must have its place, and all things connected with the farm or shop, kept in such perfect order, that when they are needed they can be found in their place, and applied to the use for which they are intended. The farmer or mechanic, whose operations are carried on systematically, will accomplish twice as much in a given time, as he who goes into his business at random, without any order or arrangement. The duty, the comfort and the interest of every man, in whatever pursuit he may be engaged, require that he should be industrious, economical and systematic. System is the life of business. It is the great secret of the success of some men who seem to prosper in whatever they undertake. It is a maxim that diligence and perseverance surmount all obstacles, but it must be a diligence and perseverance ordered by system—a well regulated system, according to which the energies and activity of the mind are directed to the object in view. And then the object will be accomplished, though there may be a thousand difficulties in the way; for there is something in the mind of man so buoyant that it will rise above all obstacles, when its energies are properly directed. Man is an active being, naturally inclined to be engaged in some employment, and when he gives himself up to indolence and sloth, he renders himself not only entirely useless, but he perverts and abuses those powers and faculties with which his Creator has endowed him, that he may be actively engaged in some virtuous calling.

In some countries the people are oppressed. The industrious farmer, who labors hard for the support of his family, is so bur-

thened by taxes, and other difficulties, growing out of the oppressive system to which he is subjected, that he cannot prosper. With all his industry and economy, and close calculations, he must be impoverished. But in this country there is nothing to prevent any one who possesses industry and energy of character, from succeeding in business, and rising into wealth and distinction by his own exertions. In this respect we are a highly favored nation; and we owe it to other nations, and the world, to set an example of industry and economy, and virtuous enterprise.

SENECA COUNTY.

The increasing attention of the farmers of Seneca to improved systems of agriculture, is producing a happy effect, and although adverse causes have for two years past interfered with the quantity and quality of the wheat crop, yet an increase of labor has been bestowed on the soil with evident advantage and economy.

The ravages of the wheat-fly in central New-York, has decidedly lessened the product of wheat, and if the cause continues, it will draw attention to other and more profitable objects, until the evil may have passed by or been remedied; in fact the feeding and fatting of cattle has on several farms superseded the wheat crop, and dairy products have been increased, not from this cause only, but from the fact also that as facilities for furnishing milk and cream to the consumers of the city of New-York from the once famed butter counties of Orange and other river and adjacent regions increase, the vendors of butter and cheese eagerly seek the more inland sources, inducing a supply by a large demand. Thus stimulated, the dairies of Seneca have been extended and have yielded results equal to the best efforts of Orange as regards quality.

The exhibition of cattle at the autumnal show, indicated a great improvement in the several breeds and their general condition. One hundred and thirteen head of cattle were entered for premiums, very many of them exhibiting points of excellence creditable to the judgment and management of their owners.

The breeding of *sheep* and wool growing, seems again to have attracted the notice of the Seneca farmer, as no less than 38 pairs of excellent sheep of various breeds were presented at the fair, manifesting a spirited rivalry.

The exhibition of *horses* was among the most attractive scenes of the fair. An omission to register the blood or pedigrees of many noble studs, prevents a notice which is due alike to the county and to the proprietors. This region of the State has contributed many noble animals to the parade and carriage drives of the city.

Swine are not esteemed profitable, and few farmers breed more than is sufficient to consume the offal of their farms. A few pure Chinese and full blood Berkshires, are carefully preserved, but beyond these, little care is bestowed upon animals which rarely yield a profit.

Poultry is receiving increased attention; the various foreign breeds have been introduced by the lovers of novelty, from the zeal of whom, in an exciting and pleasurable amusement, the county will, in a few years, derive a source of wealth; it will be a means of income to the small farmers and occupants of small lots, where a very small capital may and will be made to produce a large profit.

An animated feature of the fair or farmers' festival, was *the plowing match*, a scene which has always attracted rivals from our most distant borders. Upon this occasion, it was a grand spectacle; eighteen plows, with their polished shears glittering in the sun-beam, with thirty-six steeds seemingly impatient for the strife, the steady hand and sparkling eye of the plowman, the thousands of spectators and strong call of the marshal, formed a scene which caused the stoutest heart to vibrate with more than usual activity, and a sensation of local endearment for a favored county, to rise in power. Most of the plowmen were our farm proprietors, managing their own teams and exhibiting a style of work worthy of the agricultural character of the county.

It does not seem necessary to record in this report the joyous, happy and prosperous features of the autumnal fair. Yet one

point may here be named for the benefits which are derived from it. Allusion is here made to the quiet decorum of the thousands who listened devoutly to the sincere offerings of praise and thanksgiving for the happiness, abundance and enjoyments lavished upon the people of the county. This grateful homage was followed by an address from Mr. Martin Barton, of Romulus, a farmer who tills and manages his own farm of 200 acres. The address was eloquent and sound, intended to impress upon the agriculturists of our whole county the necessity for higher scientific attainments, and a more elevated, moral, social and political standard for this class of farmers. Such addresses, delivered with the zeal and force of a man who feels the value of a farmer's life, cannot fail to inculcate lessons which must yield abundant fruit.

The introduction of tile-draining finds increased favor, from the now apparent profitable results derived by those who first adopted it. New machines for making drain tiles have been erected, and the tiles can now be manufactured at a cheaper rate.

The county society is prosperous; rich in the zeal of its members and of the inhabitants generally, and consequently rich in the funds necessary to meet all proper expenses. The treasurer's report exhibits a statement terminating with the year 1852, as follows:

Receipts and Expenditures.

Balance in treasury per last report,.....	$41 36
Cash received from Treasurer of the State, ...	74 00
received from members, previous to the fair,...	667 00
received for admissions during the fair,.....	550 29
received for use of a tent on the ground, ...	10 00
received for materials sold (less a loss for a spurious note), ...	24 66
Total receipts,.....	$1,367 31

Cash paid for premiums former winter meeting,. ...	$10 00
paid premiums at autumn fair, ...	357 50

Cash paid expenses for enclosing the fair grounds, tents, &c.,	544 92
Balance in the treasurer's hands,	444 89
	$1,367 31

Officers for 1853.—President, John Delafield; Vice-Presidents, Abraham Rappelyea, Covert; Isaac Covert, Ovid; O. W. Wilkinson, Varick; Lyman T. Crowell, Seneca Falls; R. C. Wells, Junius; John L. Eastman, Lodi; P. J. Van Vleet, Romulus; Robert J. Swan, Fayette; Arch. Munson, Tyre; Az. Schooley, Waterloo. Secretary, Joel W. Bacon; Treasurer, John D. Coe.

Respectfully yours,

JOEL W. BACON, *Secretary.*

SULLIVAN.

The fifth annual fair of the Sullivan County Agricultural Society was held at the village of Monticello, on the 13th and 14th days of October, 1852. The weather was pleasant, and a large number of persons were present. The number of members had been largely increased since the last annual meeting, showing an increasing interest in the prosperity of the society, and encouraging the belief that it is producing a very beneficial effect on the agricultural interests of the county.

The first day was devoted to the exhibition of articles and animals, the inspection thereof by the several committees, and the delivery of the annual address. The exhibition of stock was not as large as in 1850, but the specimens were of a superior grade.

The working oxen exhibited made a fine show. There were some noble animals among them. The number of fine milch cows induces the belief that our farmers fully appreciate the importance of the dairy interest. The number of fat cattle was not large, yet it was quite respectable. The number of fine bulls, shows that our farmers are giving their attention to the improvement of their stock. E. Bennett entered a yearling of the Durham blood,

weighing 1,167 pounds. The other neat cattle were creditable to their owners, and show the importance attached to the improvement of stock.

The show of horses was good, and attracted much attention among the spectators.

The exhibition of sheep and swine, although not numerous, was of a superior grade, and showed a commendable desire among our farmers for improvement in these animals.

The exhibition of agricultural products proves that great improvement has been made in this department since our society was organized. The exhibition far surpassed any former year. The exhibition of implements was small.

Mr. Keeler Norris presented some specimens of peanuts and sweet potatoes, which were grown by him, on his farm in the town of Mamakating. I am not in possession of his manner of cultivation, and therefore have to omit it. His sweet potatoes were equal to any I ever saw, and judging from their appearance I think one would almost be inclined to believe they were grown at the sunny south.

The exhibition of fruits was good. The early and severe hail storms injured the fruit some, but many fine specimens were presented.

The ladies embellished the show with the fabrics of their skill, taste and industry. Their household articles and artificial flowers and fruits, attracted unusual interest and attention. They prove that their sympathy is with the cause of progress.

In the afternoon, Hon. John Delafield delivered the address to a large and attentive audience. It was a production replete with interest and instruction.

The second day was devoted to awarding the premiums, and the sale of cattle. The officers of the society had previously given notice that cattle might be disposed of at auction on that day, and quite an interest was manifested in this new feature of

the fair. It is intended that our annual fair shall hereafter be a fair for the *sale* as well as the *exhibition* of stock. This was the first experiment of the kind, and the result fully proves that such an arrangement will be of vast importance to the interests of the county.

A geological and agricultural survey of the county has been made during the summer and fall. The farmers show a strong desire to learn all the secrets of skilful and scientific agriculture.

The improvements in stock, and the vastly superior crops of corn, oats, buckwheat and potatoes, produced in the county this year, induce the belief that the society has awakened the interest and energy of the farmers, and that it must hereafter beneficially affect the wealth and happiness of the county.

GAD WALES, *Secretary.*

B. P. JOHNSON, ESQ., *Secretary.*

Dear Sir—I transmit to you the following statement in regard to the season and crops of this county. The spring was exceedingly backward, making it very late before the farmers commenced their spring work. The weather continued cold till about the first of June, when a fine growing season commenced. Almost all kinds of crops grew finely until the dry weather came on; the drought at last became excessive, meadows and pasture fields very nearly dried up. The hay crop is at least one-third short. Winter grain and summer crops did not appear to suffer as much from drought as hay and pasture. The oat crop has exceeded any former crop for at least six years. Rye was excellent, and so was corn, if we except a few neighborhoods where the very severe hail storms, one in May, two in June, and one in September, each of these storms nearly destroyed everything before it. Their extent, however, was quite limited. The potatoe crop was unusually good. There were more planted last spring than usual. I have heard but little complaint about the disease. There is probably as many raised this season as there ever was in any former season before the disease made its appearance.

Buckwheat was excellent even for this county. There was more sown than usual. The blue variety is considered by our farmers preferable.

Turnips.—This crop is receiving considerable attention in some towns. They grow remarkably well, though there seems to be some controversy as to their real value.

Carrots.—Some attention is being paid to this crop. Those who have had the most experience in raising and feeding this crop, think more favorably of them than turnips. I believe there were no turnips or carrots offered for premiums, except specimens. There is a gentleman living in the town of Lumberland, who raised 500 bushels of rutabagas on 94 rods of ground, without manure.

Garden vegetables are beginning to be raised in some portions of the county for the New-York market, I understand, with good success.

Fruit is receiving much attention at the present time. There is a great number at present setting out young orchards, and many who had old ones of natural fruit, are grafting them. The apple flourishes here very well, and with the same care and attention, I think would be equal to most of the river counties. Plums do well here, but are cultivated to a limited extent. Peaches, of late years, do very well if set in exposed situations. It was formerly a practice to set them in a sheltered situation, but it often happened that they blossomed early, and the fruit was cut off by late frosts. Another reason why they do better in exposed situations is, that they stop their growth earlier in the season, and the young growth gets hardened better to withstand the winter. I never knew a young peach tree that had the bark turned red before the setting in of winter, to get injured by the frost. Most all kinds of small fruit do well.

Neat cattle is receiving considerable attention at present. There has been of late years some fine Durham cattle introduced in the county, which will be an excellent improvement to our stock, especially where beef is an object. Most of our dairymen, I believe, prefer the native stock for dairies. The Devonshires are preferred for working oxen; in fact there is no cattle amongst us

that will compare with them. They are almost universally cherry red or mahogony color, with fine clean limbs, smooth slim horns, sprightly in appearance and action, and remarkably hardy. We have no oxen that will out sell a well-matched pair of Devonshires. I regret that some of our breeders of cattle do not take more pains to introduce pure blood bulls of this breed in our county. I think the Ayshires would be a good improvemeut in our county. I have no personal experience with this stock, but from their appearance, I think they would make valuable milkers. They are not as large as the Durhams, and I think would not require as much food as the Durhams, which is an item of importance to the dairyman.

Horses.—This important animal does not receive that attention I think he deserves, though they are improving.

Mules.—Some attention is being paid of late years to raising mules, which, I think, in a county like this, where so much breeding is done, will be found profitable.

Sheep.—But little attention is paid to this important animal. They are diminishing very rapidly since farmers have been fencing their fields with stone walls. There are many of our farmers who have disposed of their entire flocks. There is, I presume, no better county in the State for raising sheep than this, and I think if farmers would engage in this business, they would find it profitable.

Swine.—But few are raised except for home consumption. Of breeds, there are variety and mixture, from the beautiful Berkshire to the shark and land-pike. There are some, however, very fine breeds.

Fowls and eggs are beginning to command some attention, very few except the common varieties are raised.

Meadow and Pasture lands.—Timothy is by most farmers preferred for hay, tho' many prefer a mixture of clover and timothy. There are many of our farmers who mix clover seed of the large variety with timothy seed for hay. They grow and are both fit to cut at the same time. For myself, I prefer the latter, provided

it be sown thick enough to make the hay fine and be cured in the cock.

Composting is beginning to receive considerable attention. A considerable number are beginning to draw muck out of the swamp to add to their farm-yard manures. Some are mixing spent tan with lime for compost, by way of experiment. I regret that I am not informed of many of the various modes that our farmers are using for composting. I have been shown crops growing on lands where composts had been applied, where the crops promised very abundant.

Draining of land is beginning to receive attention. A few have commenced blind draining, most, however, make open drains. All agree as to the value of draining.

New grasses and grains.—Three years last spring, I received a small package of Italian rye grass seed from the patent office, which I sowed in my garden. The next season, gathered about two quarts from it. This seed I sowed last spring on ground that had rye on it. The rest of the field I seeded with clover. It all came up well. The rye grass outgrew the clover considerable, and after the hard frosts killed the clover, the rye grass continued green and beautiful for a long time. I think this grass will prove a valuable addition to our other grasses; it starts before any others do, and grows up quick after it has been cut off. It can be cut at least twice in a season. I was told by a Scotchman living in our place, who was a considerable farmer, that before the rye grass was introduced in that country, the farmers could scarcely pay the rents, but, after its introduction, they immediately began to grow rich. He said he thought this country admirably adapted to its growth.

The specimens of imported seeds you sent me last spring, were all sown in a small garden with great care, but the severe hail storm we had on the 22d of June, cut them all down and apparently destroyed them; however, a portion of them sprouted up again, and I saved some seed. The scotch flour oats were remarkably fine, the seed being fully equal to that sown. It grew about a foot taller than the English or French variety did. The two

latter varieties, I consider no better than our ordinary kinds. I received a small package of Egyptian Mummy oats from the Patent office, which I sowed beside the other varieties; the straw was short, but the oats were remarkably fine and heavy. I raised about four quarts from that small package. The French buckwheat did very well, but I see nothing to recommend it above our other varieties. I intend to give it another trial. The Siberian spring wheat, and also the China, did not recover from the hail storm, but I was enabled to save about as much seed from it as you sent me. I intend to give them further trial. I also received from you two varieties of barley, that the hail entirely destroyed.

I am happy to say, that the agricultural improvements of this county are advancing. Our farmers are taking much more pains than formerly, in tilling their lands. Deep plowing, with more thorough tillage, and the use of improved implements and labor saving utensils, together with a more general dissemination of *science and intelligence*, and the application of the same to the soil. Our farmers are beginning to feel the importance of understanding their business better. Agricultural books and papers are much sought after, and are being read with interest. By the way I would suggest the propriety of soliciting our Legislature this winter, to double the number of books heretofore distributed to the societies. I would also suggest the propriety of making a new division of the monies appropriated to the county societies; in many of the counties, at this day, the division of monies is very unequal. Some new counties have almost doubled the population since the appropriation and division were made.

Officers for 1853.—President, Lotan Smith, Barryville, Sullivan co., N. Y.; One Vice President from each town; Secretary, James L. Stewart; Treasurer, Richard Oakley; Cor. Secretary, James E. Quinland.

It was resolved, that the next fair be held in the town where the greatest sum would be raised, to defray the expenses of the society.

On motion, Lotan Smith, Esq., was appointed a delegate by the society, to attend the Agricultural Convention, should the State Society fix upon a time, to be held at Syracuse, in order to press the passage of a bill making the necessary provision for a State Ag. School. LOTAN SMITH, *President.*

TIOGA.

To B. P. Johnson, Esq., *Secretary, &c.*

The chief product of this county is wheat; the increase this year estimated at 4,200. The estimated number of acres devoted to wheat is 10,600, and 122,867 bushels. The yield would have been much larger had it not been for the ravages of the insect, which destroyed some crops wholly. The growth of straw was larger than I have seen before in a number of years, the crop a little above an average, and a majority of grain beautiful. The varieties raised are the Blue-stem, Hutchinson, Velvet-chaff, Old Red-chaff, and Soland. The Soland has not been tried but two or three years, and bids fair to be a valuable variety, yielding well, and a beautiful, plump white berry. The fourth of the wheat of this county is raised in the south half of the county; in the towns of Barton, Nichols, Owego and Tioga.

The rye crop in this county is constantly on the increase. It is used for horse-feed, with other grain, and makes strong feed. It is also made into whiskey, and considerable sent to distant markets. The estimated quantity raised this year is 11,433 bushels. From the fact of there being no insect among the rye, the crop will continue to increase. This crop appears to yield much better than in former years.

The crop of corn appears somewhat lighter than last year; it is, perhaps, some five or eight per cent, owing to the ravage of the worm and the great drought. There was a large number of heavy, good fields of corn. There appears to be a large decrease of this crop; according to the census between 1845 and 1850, the estimated yield

is 135,277 bushels. This crop, like the wheat, is principally raised in the southern towns.

The crop of oats is some lighter than last year, owing to the great drought and the grasshopper. This crop appears to be yearly on the increase owing to the great price which is demanded. This crop often yields 70 bushels per acre; the yield is estimated at 220,105 bushels.

The crop of barley is constantly on the increase in this county. A few years since there was hardly a crop raised in the county. The crop is estimated at 7,421 bushels.

The crop of buckwheat is very large this year, and the yield very heavy, although there was a large decrease between 1845 and '50. The yield was estimated at 55,650 bushels. A large amount of buckwheat is raised annually and sent to New-York and other markets.

The potato crop has decreased to an alarming extent for the last eight years in consequence of rot; this year they being in great demand, and last spring the crop not rotting, the yield is four or five times that of former years. The estimated yield is 542,376 bushels of good sound potatoes of unusual size.

The crop of flax, within a few years, has dwindled down to not perhaps more than 1,500 lbs.

The crop of hay has decreased within a year to not more than 18,000 tons, and if it were not for the corn fodder, not half the number of cattle could be kept through the winter.

The yield of butter is constantly on the increase, owing to the high price it has demanded for the last three years. Large quantities of it are sent to California, annually, likewise some to the empire of China. The estimate for butter is 870,108 lbs. While butter has increased, cheese has decreased more than two-thirds within a few years; the estimate is 15,000 lbs.

The number of pounds of wool has decreased very much within a few years, owing, undoubtedly, to the former low price. The estimate is 35,500 lbs.

The increase of the number of acres in the county, under tillage for all purposes, is 3,000 annually; the estimated whole number improved 124,218.

There appears to be a decrease in the number of animal stock in this county, but in a county where there is so much deal in stock as in this county, it is hard estimating the number; the great decrease of fodder has undoubtedly reduced the number of stock very much within a few months. The yearly estimate of the decrease of stock is, horses 176, cows 245, and other cattle in much greater proportion; sheep 5,406, hogs 1,530. The breeds of horn-cattle most common, is the natives, and natives with crosses with Durham, and Devonshire. Mr. George Pnmpelly, of Owego, and a few others, have taken great pains to improve the stock of cattle. It is supposed that the Durham, or a cross of the Durham with the Devon, is the best for milk, while others contend that the natives are the best milkers, and the Durham are the best for market.

There is quite a variety of sheep in this county, consisting of part bloods of Merino and Saxony, with mixtures of Bakewell and Southdown. It is calculated, for all purposes, that the Southdown are the best. Of horses, there is quite a variety; the breeds most common are the Mambrinoes, with mixture with Dutch Messenger, &c.; by some it is thought, for all purposes, that the Canistoga is the best.

There is an increase of scientific attention to farm cultivation; a spirit of inquiry is abroad. Drainage has not received much attention, there not being but little land that needs it; from what has been drained it has had a good effect. Since the completion of the New-York and Erie railroad, the land of this county has increased form 8 to 30 per cent., averaging 20 per cent.

The places where the products of the county are marketed are all the depots in the county, beginning with West Waverly, Smithborough, Tioga Center, Owego and Campville. The expense for carriage to New-York is, grain 15 cents per hundred, pork and beef 35 cts., butter 45 cts. per hundred. The general way, where

much grain is taken, is to hire a car, which will cost $39 from Owego, and other places in proportion. A car will hold from seven to nine hundred bushels of grain, and $40 for a cattle car, which will hold from 15 to 20 head of cattle.

The prices of grain for the last four weeks are wheat $1, corn from 50 to 75 cts., rye 75 cts , oats 44 and 45 cts., buckwheat from 37 to 44 cts. or $1.62½ per hundred for the flour; the price of pork is $7.50 per hundred, beef $3 and $4, butter from 20 to 25 cts. . The price of live stock is, horses $85 to $100, oxen from $85 to $100, cows from $10 to $15, sheep from $1.25 to $2.50, and the prices of sheep pelts is from 5 to 2 shillings.

I have taken considerable pains to get this up, and hope it will be acceptable, and should have answered the circular by the first of the month, had the men in different parts of the county answered my inquiries; but I got no answer from them, and had to go to Owego to gain information from men attending court.

Nichols, Dec. 17th, 1852. ROBERT HOWELL.

STATEMENT OF FARMING IN TIOGA.

OWEGO *Feb.* 23, 1853.

Dear Sir—As it must be interesting to all friends of agriculture to hear any account of crops, and the method of obtaining them, I take the liberty of presenting you with a statement of some of my last year's crops; but it is not my intention to send you an account of immense returns of single acres, as that cannot enrich the grower or consumer, to any extent; my object is to show that a system may be adopted that enriches the owner and the soil. I sowed ten acres of oats last year, on corn stubble; about half the ground was manured on the sod, for the corn crop; the land was plowed the first week in April, and sowed at the rate of two bushels and a half per acre, and harvested the last week in August. The return was 600 bushels; two acres were inferior to the other part; I believe if three acres had been taken alone, they would have produced upwards of 70 bushels to the acre. I had ten acres of corn, which produced more than 400 bushels; the last two years have

not been good for corn, in many places; the crop was not more than half a one; on the Chemung river, so much extolled, the crop was very inferior. My crop of potatoes was good, both as to quality and quantity; one acre and a half produced about 400 bushels of sound potatoes. My hay crop might be reckoned an average one; but in many places it was not more than one-half of a crop; in 1851 I had an immense crop—four acres produced fourteen loads of hay. My wheat crop was very light, not more than one-third of a crop; it grew on good hill land, and was well fallowed; the land was broke up in the last week in May, and was sowed the last week in September.

My method of cultivation, on the hill farm, is to break up the land in May, and well fallow it, and sow it with wheat the first week in September; and as soon as the crop is taken off, the land is plowed, and sowed with rye, the latter part of August, and the following spring seeded down, and pastured two years; then fallow again, and so on. This method is principally to improve the land, as the rye does not exhaust the land in the same proportion as many other crops, although the system of two white crops is, and ought to be, condemned by all good farmers.

The new land in this part of the country generally produces light crops, seldom enough to pay the expense of clearing; but the crop invariably improves as the land grows older and is more cultivated, but it never produces crops that are very profitable, as the soil is not well adapted for the growth of wheat. It is very different in many other places, in almost every part of the lake country; the first crops are the best, as the land deteriorates in cultivating. I was at a person's house in Scipio, a number of years ago, and he informed me that his land did not produce as heavy crops as it did soon after it was cleared; it also became heavy and difficult to plow and cultivate. I inquired of him how it had been cultivated? He told me he had taken a number of successive crops from it, principally wheat. I soon discovered how and where the difficulty originated. Had his land been cultivated under a system suitable to the land, it would have had a very different aspect. It is a well known fact, that it is much easier to keep a good piece of land in a good state of cultivation,

than it is to reclaim an old, worn out piece of land. The land I now have was of this description, and so much reduced that it would scarcely produce a new oat for an old one; there was a piece of oats on it, when I took it, that was never harvested; they were not more than six inches in height. The land is on Cox's Patent, notorious through this State, and perhaps half the United States; it was occupied by squatters, that destroyed all the timber and partially cleared the land; their clearing consisted in spots of an acre or two cleared, and as much covered with logs and brush; their fences were saplings lopped down, three or four rods in width. These small clearings they universally cropped, for fifteen or twenty successive years, always plowing it the same way, so that the part nearest the logs and brush was nearly three feet high, and the part they always finished their plowing in, was eighteen inches deep. It was the worst looking land I ever saw; but I plainly discovered, the land, in its original state, was good, and on that ground I purchased it, and went to work to endeavor to reclaim it. The first operation was to clear it, so as it could be plowed; but to clear these spots that were covered with brush and half rotten old logs immediately, was almost impossible; but it was done enough to plow the greatest part of the land, but such plowing, at that time, was strange to me; the old logs were chopped, or rather broke in pieces, and exposed to the sun, so that they were principally burned in the fall. The land was plowed several times during the summer, to endeavor to make the surface more even, and in the fall sowed with wheat; the crop was, as we may suppose, wretched. Grass seeds were sown in the following spring, with but little better success; but poor as it was, it remained in that state for two or three years. During that time I purchased all the straw I could get of the neighbors, which they readily sold me for several years, and thought it a good opportunity to dispose of that article, as there was no other market for it at that time; but after some years, I suppose they discovered I was applying it to a better advantage than they were, and I could get no more straw; but, however, what I had already got, laid the foundation of my future success. The land was lightly manured, plowed and planted with corn, with better success; the crop was middling. The land, the following year, was sowed with oats; that crop was also middling. The following spring it

was seeded with grass seeds, which took well, and produced good pasture for two years; during that time, with the straw I had purchased and what I got from the land, with the stock I had, as the straw was all taken to the barnyard, furnished me with a sufficient quantity of manure for the land. It was plowed again and planted, and produced a good crop. The next year it was sowed with oats; the crop was good. In the following spring it was seeded with grass, and pastured two years. The land was plowed again in May, and well fallowed with three or four plowings, and sowed with wheat in the fore part of September; the crop was excellent, it produced twenty-five bushels per acre, of good wheat, the heaviest crop I ever knew in this section of country; I have heard of crops that equalled or surpassed it, but not with sufficient accuracy to convince me that it was so.

I still pursue the same system, with the exception of only manuring every alternate time it is plowed. The land is now in a good state of cultivation, and produces almost as heavy crops as any in the State, and perhaps in any other State. I have had people from Illinois call on me; I have often asked them if their crops of corn and oats surpassed mine, and they have readily acknowledged they did not. One of my neighbors, that helped to plant, hoe and husk part of my crop of corn this season, went to Illinois this fall, and returned a few days since; he informed me that he saw no corn, since he left this place until he returned, as good as mine. I omitted my rye crop, as it was not all thrashed until yesterday; one acre on the farm I live on produced thirty bushels, of the best quality; one acre on hill farm, twenty bushels; two acres on same adjoining, twenty-eight bushels.

A Staten Island correspondent (in one of the Journals of the Society), was peculiarly situated, within the reach of fish for manure; and only shelled one load of his corn, and computed all the other loads at the same rate, which might or might not be correct, as the loads might vary. In the next place he planted his corn only eighteen inches apart in the rows, which made considerable difference. I recollect some years ago having fifty bushels from three-quarters of an acre; the rows were three feet apart each way; by making the rows only eighteen inches apart one way would greatly increase the crop. This was from land

without the aid of manure; perhaps this crop I am speaking of was as profitable as the Staten Island one was, as it appears there was more than forty-two dollars expended in manure. My crops, I am treating of, are not peculiar to any situation; the system may be adopted with the same success, almost, on any land or place; they are common, ordinary crops, with the exception of seasons. There are many flattering accounts of crops committed to paper with a view of attracting the notice of the reader, when perhaps, if they were closely investigated they might not exceed the ordinary crops of the country. Competition on a broad scale is likely to be attended with some advantage; each party endeavoring to excel increases the produce, and consequently enriches the grower.

I have seen a flattering account of a wheat crop in Michigan, that produced sixty bushels per acre, but I doubt it would be difficult to find the person that raised it. There was a person, some years ago, that lived at Silver Lake, in Pennsylvania—the roughest and most uneven surface I ever saw—that published a pamphlet treating on crops and produce of that country; among the rest was a corn crop of immense magnitude, surpassing all crops of that kind; his method of computing was to measure the land that supported the stalks, omitting the intervals between the rows, which would be equal at least to four or five acres, so that the produce of four or five acres was reported as only one. This deception was used to induce the settlers to take up his land; and many a poor fellow, unacquainted with the country, was wretchedly deceived. It is more than probable that this flattering and deceptive account, at a considerable distance from home, attracted the attention of many of its readers: adieu to deception! As crops depend on the state of cultivation the land is in, not only as to fertility but the certainty of getting them, as crops will grow and produce well on land in a good state of cultivation, when on land that is poor and exhausted they will often fail, in the same seasons under the same cultivation; in very dry seasons the one will produce good crops when the other will fail, as the drought does not affect land that is rich and well pulverized, as it imbibes more moisture from the atmosphere and dew. Some people entertain a mistaken notion respecting this theory, and will not hoe

their corn, or other crops, in very dry weather; but the more they hoe and work among it, and effectually do it with good and deep hoeing, the better the crop. I believe this has been the case with my crops for the last two years. Last summer and fall was remarkable dry, so that many corn crops failed, and some oats, which plainly indicates that the crop depends on the state the land is in more than it does on the chances of weather—of wet and dry. Thus, barley or oats, being sowed on a piece of land well prepared by tillage and manure, will come up and grow well without rain, when the same grain sown on another part of the same land, and not thus manured and tilled, will scarce come up at all without rain, or if they do, will wait wholly for rain for their growth and increase. The hoe also, particularly the horse-hoe, for the other does not go deep enough, produces moisture for the roots from the dews, which fall most in dry weather; and these dews seem to be the most enriching of all moisture, as they contain a fine black earth, which will subside on standing, and which seems fine enough for the proper pabulum or food for plants. As a demonstration that the tilled earth receives an advantage from these dews, dig a hole in any piece of land, of such a depth that the plow goes to, fill this with powdered earth, and after a day or two examine the place, and the bottom part of this earth and bottom of the hole will be found moist, while all the rest of the ground at the same depth is dry; or if a field be tilled in lands, and one land be made fine by frequent deep plowings, while another is left rough by insufficient tillage, and the whole field be then plowed across in the driest weather, which has continued long; every fine land will be turned up moist, and every rough land as dry as powder, from top to bottom.

Mr. Harmon's crop of wheat, grown at Wheatland, was a very extraordinary one, on so broad a scale, and perhaps the name of Wheatland might have originated from its being peculiarly adapted to that crop. His system was to sow wheat on his land every alternate year. Whether that system will increase the fertility of the soil, without depreciating the crop, is a problem as yet unsolved. Although his crop appears greatly to exceed ordinary crops of the country, there is a considerable deduction to be made: in the first place there is two years' interest on the land,

with the expense of clover seed, and all the other ordinary expenses attending crops. This uncommon crop, attractive as it may appear, does not equal Mr. Tull's crops of wheat, as his land produced a crop every year, of about eighteen bushels per acre, for eighteen or twenty successive years, on land that was not worth cultivating when he commenced his operations, which plainly indicates that his system improved the land and the crop. The advantage in his method of cropping was to get a crop of wheat every year, from every acre of land; which on 254 acres, the number of acres on Mr. Harmon's farm, (say 214 acres, allowing 40 acres for pasture and hay), would amount to 3,852 bushels every year.

From seeing an account of an immense crop of corn, raised by Mr. Walker, of Susquehanna county, Pennsylvania, which attracted my attention, the crop was raised in the ordinary way, on land not of superior quality, but the figure of the number of bushels is incredible. The method described was to manure the land at the rate of twenty loads per acre; plant the corn three feet four inches one way, and three feet the other, and not hoe, but scuffle or scarify the land between the rows several times. The method of computing was to count the rows, and the hills in the rows, and husk twenty-six hills, reckoning it a fair average for the whole, which amounted to 160 bushels per acre, which is one hundred more than we might reasonably suppose, except they computed on the Silver Lake plan. It also appears that Mr. Walker's land produced twelve tons of pumpkins in addition to the corn.

I recollect having a piece of corn, about ten years ago, that was of immense growth; the stalks were between eight and nine feet in height; it was a complete thicket, and was remarkably well eared; it was the admiration of this section of country, and was allowed by all who came to see it, the heaviest crop they ever saw; the produce of this mammoth crop was under 70 bushels per acre; it was three feet apart each way.

HENRY YOUNG.

TOMPKINS.

Tompkins County Agricultural Society, not having held a fair since 1848, its gratifying to me to be able to report, that we are once more in the land of the living, and that our annual festival was held at Ithaca, on the 29th and 30th days of September, two as lovely days as the sun ever shone upon.

The exhibition was far more creditable to our county than was anticipated. The exhibition of stock on the first day of the fair, was very fine, comprising 250 head of cattle, including specimens of Durhams, Devons Herefords, and Grades, some of which could hardly be excelled at any State Fair.

The show of horses has never been surpassed in our county, including many thorough bred, and equal to any I have ever seen on exhibition; one and two year old colts in good numbers, many brood mares and colts, which shows a spirit of improvement in this very useful kind of stock.

The show of sheep was creditable to our wool growing community, including some of Morrell's, Speed's and others.

The display of swine was not such as it should have been, being quite limited, and not such as should correctly represent the condition of this pursuit in this county, at prices ranging from $7 to $8 per hundred; some with legs resembling old fashioned bar posts, and with snouts almost long enough to extend from one to the other.

The show of poultry was better than on any former occasion, showing great improvements in breeding, &c.

The exhibition at the village hall, on both days of the fair, would have done credit to the fair of any horticultural society in the State, showing a greater display of fruit and vegetables, than ever before exhibited in our county, including over one hundred different variety of apples, a great variety of grapes, comprising many fine specimens in great abundance; also pears, several new and choice varieties never before tested in our county. Peaches, quinces, and vegetables, far surpassing any exhibition we ever had.

The competition in the dairy seemed to surpass all others. The premiums offered on butter, called out many of our best butter makers, including 45 specimens, most of which were equal to any I have ever seen, and pronounced by the judges excellent, showing great improvement in the manufacture of this delicious product.

The display of mechanical work was fair, and very creditable to our mechanics; also many specimens of needlework, showing great taste and skill.

The plowing match, on the second day of the fair, created considerable excitement. Eight teams were entered for competition, including nearly as many varieties of plows, all of which did their work admirably.

The annual address was delivered in the village hall, by M. C. Riggs, Esq.; on the afternoon of the last day of the fair, to a full and attentvie audience, after which, the reports of the several committees were read, and premiums awarded.

Officers for 1853.—President, J. R. Speed, Caroline; Vice-Presidents, S. H. Purdy, Ithaca, S. Robertson, Dryden; Cor. Secretary, A. Wells, Ithaca; Recording Secretary and Treasurer, N. Crittenden, Ithaca.

Executive Committee.—S. H. Purdy, Ithaca; S. Robertson, Dryden; C. Purdy, Enfield; J. Woodward, Hector; W. C. Woodworth, Ulysses; Levi C. Beers, Darby; James Puff, Newfield; J. P. Harf, Groton; Chas. Morrell, Lansing; D. Roe, Caroline.

Amount paid by members,	$191 00	
" received from the State,	114 00	
		$305 00
Amount paid for premiums,	$220 00	
Arrearages,	30 00	
		250 00
Balance on hand,		$55 00

H. D. BLAKESLEE, *President.*

N. CRITTENDEN, *Rec. Secretary.*

ULSTER.

The annual fair of the Ulster County agricultural Society was held on the 6th and 7th days of October, 1852, in the village of Rosendale. The exhibition far surpassed those of previous years, particularly in the display of cattle and horses. The vegetable productions and manufactured articles were also numerous, and of a very superior quality; evincing that manufactures and agriculture were making a steady, though not rapid progress, in this county. Still, we must say, that nothing worthy of the population, wealth and resources of Ulster county has been presented at any of its annual fairs. The plowing match took place on the second day, and attracted much attention. The first premium was awarded to Joel Tyler, and the second to Peter Cornell. The plowing was done with horses, and the work was well done. At two o'clock of the second day, the annual address was delivered by S. S. Hommel, Esq., of Kingston, for which a vote of thanks was tendered by the society.

Field crops.—There was considerable competition for field crops. The first premium on wheat was awarded to Peter Crispell, jr., of Hurley, 34 $\frac{9}{32}$ bushels to the acre; C. M. Van Leuven, of Kingston, on corn, 88 bushels per acre; C. M. Van Leuven, on oats, 108 bushels per acre; Peter Crispell, jr., on potatoes, 473 $\frac{1}{4}$ bushels per acre. First premium on improved farm, C. M. Van Leuven, of Kingston; second do., Abm. Hoffman, of Kingston. The particular details of the lands cultivated, the mode of culture, and the quantity and nature of manure used, were not furnished to the committee, though we can state from our own knowledge, that all the crops were grown upon "low lands," or alluvial, bordering upon the Kingston creek.

Officers for 1853.—Richard Hardenburgh, Tuthill, President; Peter Crispell, jr., Hurley, Wm. H. Trumpbour, Saugerties, Joseph Arnold, Esopus, Philip Hovenbeck, Rochester, Vice Presidents; S. S. Hommel, Kingston, Recording Secretary; Wm. Cockburn, Kingston, Corresponding Secretary; R. A. Chipp, Kingston, Treasurer.

RICHARD HARDENBURGH, *President.*

WASHINGTON.

To JOHN M. STEVENSON, ESQ.,

President of the Washington Co. agricultural Society:

Sir—In compliance with your request, in answering "inquiries" of a "circular" issued from the "State Agricultural Rooms," at Albany, by B. P. Johnson, Esq., Corresponding Secretary, several farmers have been consulted, their views obtained, and as the result of investigation, the following is submitted for correction and approval:

"1. *The chief product*" for 1852, without an actual canvass, is judged to be corn; farmers of Washington county, by long experience, have found this their most valuable crop. Their farms are adapted to its growth, and they appropriate more land to its cultivation than to any other one variety of grain. Average crop, 30 or 35 bushels per acre.

"2. *The increase or decrease of this year.*"—Owing to the ravages of insects, followed with an unusual drought, as well as other causes, the corn crop is considered one-fourth less than the last year. The autumn was admirable for maturing the product. The stalks were cured in fine order, which *increases* their value, especially as they are so much needed in the scarceness of other fodder.

"3. *The estimated number of acres devoted to this production, and the quantity and quality produced.*"—The number of acres devoted to the cultivation of corn has advanced upon the last year but very little, if any. The quantity is one-fourth less, and the quality better.

"4. *The condition generally of other important products, and the average quantity of each.*"—Potatoes have yielded abundantly, of large size and excellent quality, without disease. Farmers have devoted more land to their growth than usual. The varieties raised for market are principally the Early June, Carter, and Peach Blossom. They have commanded fair prices; and it is estimated that not less than 2,700,000 bushels have been raised, and part sold and sent to markets beyond the limits of the county,

and still a large surplus remains in the hands of the farmers unsold. From the town of Hartford, it is estimated 225,000 bushels of potatoes have been raised this year from 1,800 acres.

Grass, owing to an uncommon drought, and myriads of grasshoppers, is estimated at one-third, some say, one-half less than the last year. But, as a compensation in part, it is of superior quality, and cut and dried in the choicest manner, without injury by storms. In Hartford, and that vicinity, it is estimated grass lands have not yielded over three-quarters of a ton per acre.

Rye has been a light crop, and is not cultivated as much as formerly.

Barley has had a moderate yield, and is not extensively cultivated.

Wheat, in some few fields, has succeeded well in quantity and quality, generally not so good as the last year. About the same number of acres have been cultivated.

Buckwheat has been cultivated as usual, and about the same number of acres devoted to its growth. The quantity of bushels per acre have usually been less, and the quality not improved; yet it is estimated that the product has been fair, and adds much to supply the deficiency of other grains.

Oats, on some farms, have produced fine heavy crops; generally the straw has been short and the burden lighter than the last year. Usually it is one of our best productions.

Flax is a crop growing much in favor with farmers, especially in the southern towns of the county. There is annually an increased quantity of acres devoted to its growth; more this year than the last. The drouth lessened the quantity per acre, without improving its quality. It is estimated by Hiram Darrow, Esq., principlal grower and dealer in flax, that three thousand acres have been cultivated in the county the last season. The average yield is eight bushels of seed and 225 lbs. of lint per acre. The seed is valued at $10, and the flax or lint at $22.50 per acre, making the total value of the product $97,500 for this year.

Peas are cultivated principally for home consumption as a garden vegetable and in the field, to be used with other grain in feeding to swine. Very few are raised for market.

Beans are not to be slighted and passed in silence; they are usually placed upon lands considered too barren to produce anything else, and of course light crops of stinted growth. Few to sell and few to eat.

Garden seeds, for many years, have been cultivated in the county to considerable extent, yielding a fair profit to the gardener. George Robertson, of North White Creek, has the oldest and most extensive seed garden, and may be considered our oldest and most experienced seed gardener. He takes unwearied pains in purchasing and planting foreign seeds of the earliest and choicest selection of European garden vegetables, which enables him to furnish seeds of a superior and reliable quality. There are others also in the vicinity, of an enterprising spirit, who are prosecuting their labors with a commendable zeal, not to fall behind their "elder brother" in the superiority of their products. Seeds from these gardeners may be relied upon as unsurpassed by any in the country. The climate is northern and the soil excellent, combining influences favorable for raising seeds for early vegetables and equally good for autumn and winter use, by planting as directed upon their bills.

Fruit is receiving increased attention in its cultivation. There are several fine nurseries in the county, of choice grafted fruit. From these and other sources, farmers are improving their orchards and increasing the variety and value of their fruit. The past season has been unfavorable, and but a moderate quantity produced. At the *county fair*, competitors presented commendable specimens of numerous varieties, for which premiums were bestowed. At the late fair were presented apples, pears, peaches, plums, quinces and grapes, of luxuriant appearance.

"5. *The increase or decrease of the number of acres under tillage for all purposes*"—There is evidently an increase, by the addition of new lands cleared, by the destruction of briar hedges and bushy patches, and by the drainage of swamps and by reclaiming cold, wet, spongy and barren pieces.

"6. *The increase or decrease in the number of animal stock; the breeeds most common, and what improvements are in progress, and what breeds of cattle are most approved for the dairy and for market.*"—In consequence of a light crop of hay, farmers have found it expedient to lessen their "number of animal stock" one-fourth or more.

"*The breeds most common,*" are native, with crosses of foreign stock.

"*Improvements are in progress,*" by the introduction of Durhams, Ayrshires and Devons, and by a careful selection from native stock.

Those "*most approved for the dairy,*" are the native breed; and also those with a mixture of foreign blood. They are hardy, easily kept, good breeders, and fine milchers; excellent for butter and cheese. For an example, reference may be had to the cow of Mr. Peter Hill of Jackson, with a mixture of foreign blood, from which was made 21 lbs. and 3 ozs. of butter in seven days, in the month of June last, on pasture.

Those most approved for market as milch cows, and for breeding good stock, are of the same character. This is also true of our best working oxen—Being short legged, tight built, and of strong muscular texture.

For beef, they have a decided preference. In proof of which, reference is had, for kindness, and strength in work, and for easy fattening properties, to those oxen raised by Mr. John Lee of Cambridge, recently purchased by Geo. F. Hastings of Jackson, and now on exhibition as a show in the city of New-York. They have been estimated to weigh eighty hundred, and are supposed to be of the finest build, and the heaviest yoke of oxen in our world.

Sheep.—Wool growers are numerous. Their flocks large, of the Merino and Saxon variety, of moderate size, producing fleeces of fine grade. Recent efforts have been made by some farmers to improve their flocks. Maj. George W. McKie of Cambridge, within a few months, has purchased some large French Merino

sheep, from the imported flock of Col. Jewett of Weybridge, Vermont, which will prove a valuable acquisition to the flocks in our vicinity. Other varieties have also been introduced of a valuable character, which is evidence that farmers are not slow in efforts to elevate the value of this portion of their stock.

Horses have always been in good demand, and farmers have not been slow to learn the value of a good team. Pains have been taken to introduce the best stock for kindness, constitution, speed and strength. The present season, LeRoy Mowry, Esq., of Union Village, has introduced some fine Morgan bloods from Bellow's Falls, Vermont, with hopeful usefulness to the farmer, and much credit to the introducer.

Swine.—No material improvements are noticeable in the raising of swine, or in the fattening of pork. At present the farmers of the county are not in a position to compete with those of the west. The facilities of transportation, having been improved, enables the western farmer to supply the eastern markets at prices lower than it can be made with profit here.

7. "*The increase, or decrease, or absence of scientific attention to farm cultivation.*"—It is evident, from various reasons, that knowledge is increasing. Our district school libraries furnish a vast amount of reading; our primary schools and academies are waxing better, furnishing our youth with superior advantages for mental culture; periodicals, and especially those on farming and horticulture, have received increased patronage; the distribution of the "Transactions of the State Agricultural Society," of the American Institute and Patent Office reports, as premiums at our annual fair, together with discussions and the very popular and instructive addresses from distinguished orators on those occasions, have produced a combination of influences to awaken interest and excite the enterprising to a scientific attention to the cultivation of the soil.

8. "*Has draining received attention; and if so, what are its advantages?*"—On almost every farm some improvements are annually made. The result is most happy. Barrens are turned into fruitful fields; frog-ponds are emptied of their filthy contents, and

made good meadows, adding much to the neat and thrifty appearance of the farm as well as the increase of its productions. These drainages are both open and blind, and usually produce their desired effects.

9. "*The increase or decrease, or stationary value of farms.*"—As a whole, farms have increased in value, arising from their improvements and locations. The navigation of waters within the county, also lines of railroads and plankroads crossing in various directions, furnish increased facilities for marketing products, for sustaining manufactories, merchants and mechanics, and adding to the population of our villages, which constantly increases the demand for the products of the farmer, and constantly increases the value of his possessions. This is more manifest near the lines of these conveyances and at the greatest distance from market.

10. "*The place where the products of the county are marketed; what per cent of their value do the expenses amount to?*"—The products, to considerable extent, find a ready sale in our villages, at our factories, and at a variety of stations upon the line of the Northern canal, and the several railroads within the county. The balance, which is the heaviest portion, is marketed at Lansingburgh, Troy, Albany, New-York, Boston and Montreal. It should be added that the products of the farmer, in no inconsiderable quantities, are purchased by speculators at the doors of the producers, and by merchants who dispose of them at their own charges. Hay is pressed, and in large quantities, is becoming a prominent product for exportation upon our canal and railroads. In some parts of the county, this is the first season of the enterprise.

"*What per cent of their value does the expense of their marketing amount to?*"—As an average expense of marketing the products of a farm, it is estimated at one-fourth cent per pound. Some articles will cost more, others less.

EPH'M H. NEWTON,
Cor. Sec.

Coila, *Jan.* 1, 1853.

ARGYLE, *Dec. 4th*, 1853.

Dear Sir—In compliance with your request, I send you a statement of the chief products of the town of Argyle, as follows:

	No. acres.	No. bushels.	Estimated value.
Corn,.....	2,000	60,000	$40 000
Potatoes, ...	1,100	100,000	35 000
Oats,.....	2,000	75,000	30 000
Wheat,.....	500	10,000	10 000
Rye, ...	500	8,000	6 000
Hay,.....	5,000	tons.	$50 000
Butter,.....	250,000	pounds.	50 000
Pork,.....	600,000	"	45 000

Above, you will see the number of acres under cultivation for each crop, and the quantity produced, and the quality is very good; beside the above, we raise a small quantity of barley, buckwheat, white beans, carrots and flax, the quantity of which I have not been able to make any just estimate. Our hay crop is not over one-half the usual quantity, owing to the long and severe drouth through the summer; the corn crop was rather light. Potatoes very good during the last year; there has been quite an increase in the cultivation of potatoes, and a large decrease in wheat and rye; there has been also an increased excitement in the scientific mode of farming, in plowing our clay soil deep, and doing it in the fall season, that the frost may pulverize it, and fit it for the reception of the seed early in the spring; in manuring, by making composts of muck, marl, lime, gypsum, and barn-yard manure, such composts mixed thoroughly, and put on our gravelly and sandy loam soils, has operated very beneficially, increasing the crop to double the usual quantity. We are using considerable quantities of plaster on our farms, and it pays well; also there has been great attention paid to draining of late, which has increased the value of our farms greatly. The number of acres under tillage, for all agricultural purposes, in our town, has increased greatly for the last four or five years.

There has been a very great excitement in the town of Argyle for the last ten years, in regard to the rearing of horses, but it is now somewhat abated, in consequence of a thing that has lately

come among us, called the Iron horse, without head, mane or tail, and to hear him puff, you would suppose him incompetent to perform much service, in consequence of the heaves, but he is all powerful, and monopolizes the most of the trade, and will carry enormous loads of passengers, goods and freight, with almost lightning speed. The most approved breeds are the Morse, Morgan and Black Hawk. We raise some very fine horses; the Morse and Black Hawk for speed, the Morgans for horses of all work. We have made very great improvement, within a few years past, in our stock of cattle; a few years since, we raised none but our common native breed, now we raise the Durhams, and a cross of Natives and Durhams; the latter we think preferable for the dairy, the Durhams preferable for market.

We have made little or no improvement in sheep; a number of our farmers still raise the old native breed, others the Merino, and others the Saxon; we have a few Bakewells and Southdowns; the most approved breeds for fleece, are considered the Merino, or a cross of Merino and Saxon; for market, Bakewells and Native, or a cross of the same. There is a large decrease in point of number this year, from former years, owing to the scarcity of hay.

There has been a constant yearly increase in value of the farms in Argyle, for the last ten years, the farmers having paid great attention to scientific farming, draining and manuring, which has increased the value of their lands from twenty to forty or fifty dollars per acre, within a few years. The place of market, for the products of the town, is at the depot, in the village of Fort Edward, on the Washington and Saratoga railroad, six miles distant, over a good plank road, and, therefore, the per cent for marketing is but trifling.

Respectfully yours,

J. SAVAGE.

Answer to Circular.

B. P. JOHNSON, ESQ., *Secretary, &c.:*

1st. The chief product of the town of Fort Edward is corn, oats, rye, potatoes, and some wheat.

2d. Rather short crop this year.

3d. The estimated number of acres devoted to the above production is about one-eighth of the whole surface of the town. The average crop of corn and oats is about 35 to 40 bushels per acre; rye, 15 to 25; potatoes, 150 to 300 bushels. Quality good.

4th. The hay crop is probably the most important crop that is raised in this town; far the largest portion of the town is better adapted to meadow than anything else. For the last few years farmers have turned their attention to raising hay, and pressing and sending it to market; it has usually netted about six dollars per ton (before pressing). In this way it is thought by many that it pays better than feeding to stock. This season the high price in New-York paid for hay, the crop has neted about twelve dollars per ton; about one-half the average crop this season.

5th. There is an increase of the number of acres under tillage for all purposes.

6th. There is a decrease in the number of animal stock this year, in consequence of the short crop of hay. For some years past there has been a steady increase. The breeds of cattle most common are cross with the Durham; they are most approved for the dairy and for market.

7th. Scientific attention to farming cultivation is on the increase, but is far behind what it should be.

8th. Open drainage has received considerable attention, with great advantage attending.

9th. Good farms have improved fifty per cent. in value within the past ten years.

10th. Most of the farming products are marketed at the village of Fort Edward; a large portion is thence shipped to New-York. The expense of marketing is about ten per cent.

WILLIAM FORBES.

Fort Edward, Dec. 11, 1852.

Dear Sir: In answer to the inquiries contained in the circular from the Secretary of the State Society, I would state that the chief product of Hartford is potatoes, and that the increase this year was fifty per cent.

3d. There is estimated to be 1,800 acres devoted to this crop, the quantity 225,000 bushels, and the quality the best sent to market.

4th. Hay, corn, oats, butter, pork and wool, are the next important products; the first four lessened from 30 to 50 per cent, in consequence of drouth and grasshoppers; and pork lessened 25 per cent from failure of crops. Hay has not averaged more than ¾ of a ton per acre; corn 30, and oats 25 bushels per acre; butter 120 lbs. to the cow, and wool 3 lbs. to the fleece.

5th. An increase of 10 per cent of acres under tillage.

6th. A decrease of 50 per cent in sheep, 25 per cent in cattle and hogs, and 10 per cent in horses. The breeds of sheep are a cross of Spanish Merino on the native stock; and of cattle, that of Durham on native; of hogs, a mixture, but improved breed. The improvements in the several kinds of stock are slow and gradual, but all for the better. Grade cattle, of Durham blood, are most approved for the dairy and for market.

7th. A small increase of scientific attention to farm cultivation.

8th. Drainage has received some attention, and its advantages are obvious and decided.

9th. Farms are yearly increasing in value, at least 10 per cent annually for the past three years.

10th. The products are marketed at home, and mostly deliv ered on the Champlain canal, nearly adjoining the western part of the town. The expense of raising and marketing potatoes is about 33 per cent; of other crops about 67 per cent, including interest on land.

In the town of Kingsbury the same causes have produced similar results.

1st. The chief product is hay.

2d. Decrease from 40 to 50 per cent.

3d. Do not know the number of acres, but the quality is good.

4th. Corn, 25 bushels; oats nearly destroyed by grasshoppers; potatoes large crop and fine quality.

5th. No material alteration.

6th. Decrease of stock, consequent upon decrease of forage; very few improved cattle or sheep.

7th. Not much science in farm cultivation.

8th. A little attention; its advantages marked and decided.

9th. Value of farms increase.

10th. Hay and coarse grains to Warren county lumbermen; potatoes on Champlain canal, running through the town; expense of raising and marketing potatoes 33 per cent, and of other crops 67 per cent.

I have not been able to make as full a report as I could have wished. I endeavored to obtain the assistance of some of our friends who have more leisure to devote to the subject, but failing to do so, send such as my own time would permit me to do. As to Kingsbury, I furnish such information as I could obtain from our friends residing in that town.

HARVEY BROWN.

South Hartford, Dec. 8, 1852.

Reports of Committees.

Wheat and Corn.

The season has been so unfavorable for crops, that the Society could not expect as favorable a report as in former years. The corn crop may be considered annually as the best and most valuable raised in the county. Our lands are good for its growth and are easily tilled, and usually reward the farmer for his labor. The last spring many fields were injured by worms and crows; in some cases the seed was poor, and fields were planted the second time; the spring was backward and wet, which was followed by a long spell of dry weather, much to the injury of the crop. The fall was more favorable; corn ripened well; is sound and good. Some fields may be considered as good as the last year, but generally the yield has been one-third or one-quarter less.

Ground for corn should be rich, strong land. Manure is advantageous to the crop in warming and fertilizing the soil, when spread and plowed under, or put in the hill, or both. The plowing should be deep and thorough. This gives the surplus of water in the spring a chance to settle and not drown nor rot the young corn; and in time of drought it furnishes the roots the advantage of descending and spreading in search of moisture. By placing of the rows north and south and east and west, it gives the sun a chance to strike at the roots and warm the ground. A top dressing of plaster and ashes is beneficial. Good farming requires lands to be furnished with those fertilizers by which they may be improved and not impoverished by a long course of tillage; that we may leave our farms in as good, or a better condition than we found them. We are encouraged to do this not only in discharging a duty we owe to the world but by the excellency of our annual products.

Oats are considered by your committee the next valuable crop, and usually follow the corn and potato crop. The burden of straw has been less and the seed lighter, and less in quantity than in former seasons. Some fields are honorable exceptions, in which the crop has been fine and heavy.

Wheat was formerly one of our best harvests, but its destruction by insects has almost discouraged attempts at raising it. This year some fields have produced well, but generally the crop has been a moderate one. It succeeds best upon new lands and summer fallows.

The *Rye* crop seems to be annually decreasing, much to the interest of the farmer and the high gratification of the advocates of temperance.

Barley.—Your committee have not much experience in the cultivation of this variety of grain, and are not prepared to say definitely what is the character of the crop, or of its profit to the farmer.

Buckwheat is usually sown upon light soil at a season when the farmer is not pressed with other work, and is gathered at a similar time, and the expense of raising is but little felt, and the product a valuable addition to other grain. The cultivation of it should be encouraged.

Peas have received some attention, and good crops produced, which were favorably noticed in the report for September. On lands adapted to their growth, peas and oats make a valuable crop for feed; and we should be pleased to know more of the experience of farmers in the growth of this crop in the county.

Beans, when planted on poor land with neglected cultivation, and overshadowed with weeds, *won't pay*. But if planted upon good soil, well tilled and kept clean from foul stuff, will yield at least 20 bushels per acre, worth $1.50 per bushel. Their broad leaves are proof that much of their support is drawn from the atmosphere. Therefore, the conclusion is that they exhaust the soil less, and require much less labor than the cultivation of an acre of flax with about the same profit. The white field pea bean, or 1,000 to 1 so called, and the white Chenangoes, command the readiest sale and the highest prices.

AHIRA ELDRIDGE,
PETER HILL,
WM. STEVENSON,
Committee.

Potatoes, &c.

The committee award as follows:

On Potatoes.—1st premium, E. S. Prindle, 385 bush. per acre, Long Johns', valued at 20 cts. per bush. Net profit, $59.60. 2d premium to Samuel Wood, 205 bush. Carters, valued at 40 cts. per bush. Net profit, $58.55. 3d premium to E. S. Prindle, 275 bush. Western reds, valued at 25 cts. per bush. Net profit, $51.35.

On English Turnips.—John L. Hunt, Cambridge, 1st premium, 649 bush. on an acre. Net profit, $50.74.

Harvey Brown presented certificates of having raised 109 bush. on one-quarter of an acre, at a net profit of $18.08—but as no samples were exhibited, the rules of the society exclude us from awarding a premium.

On Beans.—To Samuel Wood, a meritorious premium of $1 for $8\frac{3}{4}$ bush. raised on half an acre.

Julius Collins, of Battenville, exhibited a sample of 400 bush. of Western Timothy seed of a most choice quality, but not grown in the county, and therefore not entered for premium.

The committee on grain, seeds and root crops, would remark that, as the growth of the potato crop has been superior to that of former years, both in the quantity of bushels per acre, and the excellency of the vegetable for the table and other purposes, your committee have availed themselves of the experience of others as well as of their own, in collecting information; and as the result of their investigation, they are happy in stating that farmers in the county have planted about one-fourth more land to potatoes than the last year. The yield has been more than double. The crop has been of the choicest character, without injury by disease. The size of some specimens are of mammoth growth, and also of good quality. The quantity raised may be estimated at three million bushels, which far exceed the number of bushels of any one variety of grain raised in the county. The product has demanded fair prices, varying at different periods of this season's crop from 20 cents to 50 cents per bushel. The principal sales have been for

markets without the county, and shipped from stations upon the canal and railroads. Large quantities still remain in the hands of the producers unsold.

On the varieties they would remark that they are too numerous to name in this report, but would mention a few most esteemed and cultivated in the county, viz:

The *Merino*, (Long John or hog potato) has been of tried value among us—is a long, roundish variety, with eyes numerous and sunken, skin red, flesh marbled. It should be planted early, as it requires the whole season for its growth; the vines continuing green and growing late in autumn, or until killed by frost. The skin is thin, the tuber tender and easily broken like one not fully ripe. The flesh is brittle and juicy, which renders it a favorite with stock; and as it yields more abundantly than any other variety, may be considered the most profitable for feeding to animals.

The *Early June* has become a great favorite for an early potato. It is round, of moderate size, eyes sunken and bears well. Should be planted early, and in good soil will be rapid in growth and in reaching the period of its maturity. Is good both as an early and late potato, and commands a ready market.

The *Mercer*, or Meshanoch, is a long flattish potato, eyes sunken, skin marbled, purplish, and of a dingy white. Flesh also marbled; has a good flavor baked or boiled; is a good bearer and ripens early, and has a ready market at good prices.

The *White Mercer*, is long, inclined to be full in the center, and tapering toward the ends; the skin and flesh white; eyes sunken and numerous; is well esteemed; has been but recently introduced into the county.

The *Carter* potato is of good size; usually larger at the heel than the toe; is longer than wide, and a little flattened; the skin and flesh white; popular in the market; commanding the highest price, and is extensively grown in the county.

The *Fox-eye* is similar to the Carter in shape, size and color, and general appearance in growth and yield, and also before and

after cooking. This variety has been cultivated for some twenty years past, by George Robertson, principal seedsman of North White Creek, and we are yet to learn if it is not the identical Carter, or rather the Carter the genuine Fox-eye.

The *Cow-horn* potato, receives its name from its general appearance; is oblong, thickest in the middle, and curved; color dark purple; eyes few, and not sunken, and is valued for its *quick bake*, as a baking potato.

The *Lady-finger* is a long, round, cylindrical potato; thick in the center, and tapering towards the heel and toe ends; color white or yellowish white, as is also the flesh; it is esteemed for its easy and quick-baking properties; the eyes are numerous and deeply sunken; tubers often branching; those without prongs should be cut and planted.

The *Early June-kidney* is oblong and flattened; skin smooth, or occasionally with some small scales; color yellowish, or buttery colored; bakes easily; of good flavor. When young or unripe, the flesh is rather hard and solid after it is cooked, but when ripe is mealy and much esteemed. Ripens early in July, if planted early, on warm, good soil. A member of your society obtained the seed from Dr. Bethuel Peck, of Glen's Falls, in the spring of 1832, and has grown it ever since, as an early favorite variety.

The *Flour* or *Bread* potato is strictly kidney-shaped; smooth, even surface; eyes elevated and not sunken, and few in number; the color is darker than the early June-kidney; cooks easily, and its name is significant of its esteemed quality. It has not been extensively cultivated. We ask, may it not profitably supply the place of the White Mercer, Cow-horn, Lady-finger, and early June-kidney, to their exclusion?

The large *French Pink-eye* is a round potato; eyes deep and colored, with a purple stripe upon the eye-brow; yields abundantly, and is a profitable variety to cultivate.

The *Early Pink-eye* is oblong, small size, of excellent flavor; eyes colored and sunken; not very productive, but much esteemed for the table.

The *Peruvian Pink-eye* is large, oblong; eyes but little depressed and colored; larger at the heel than the toe end, and by some esteemed as a very valuable variety to cultivate for all purposes.

The *Leopard* has long been one of the standard varieties of general cultivation in the county; is round; good size; eyes sunken; color marbled with reddish purple and white; has been productive and much esteemed. Other varieties are lessening its cultivation.

The *White French Roan* potato, presented for examination at the fair in September last, by Rev. P. Gordon of Cambrige, is large, round; eyes deep; color white; and was pronounced good for the table and very productive. Seed from Havre in France.

The *Shepherd Red*, presented at the late fair by B. C. Schermerhorn, of Union Village, is of moderate size; round; eyes depressed; skin red and rough or scaly; flesh white; is said to be a good variety.

The *Black Warwick* has been recently introduced into the county from Massachusetts; is of good size; oblong cylindrical; eyes sunken; color a very dark purple, nearly black; flesh dark marbled. The color is against it; otherwise it is to be valued as a light, mealy variety for use, and is very productive.

The *Peach Blossom*, or Western Red so called, is of tried worth; is of good size; shape round and oblong; color red; skin both smooth and scaly; also dotted; flesh cream-yellow; rich flavored and highly nutritive; matures late; making it a valuable spring potato, and truly may be considered one of the best varieties cultivated.

Several more varieties are on hand for description, but let these suffice, with the addition of one more as a test of long experience.

The *English White* is round; good size; eyes sunken; color white; flesh mealy and of good flavor. This variety has been cultivated on the farm of Harvey Voluntine, in Jackson, for the last forty years or more, almost to the exclusion of every other variety, and without deterioration in quality, yielding its usual good products, commanding the highest prices.

The committee would remark that the society is indebted to Rev. E. H. Newton, for the above interesting article upon the potato.

ASA FITCH,
DANIEL McNEIL,
JOHN T. MASTERS,
Committee.

REPORT OF TRIAL OF IMPLEMENTS AT GENEVA.

To JOHN M. STEVENSON, ESQ., *Pres't Wash. Co. Ag. Soc.*

Sir: Holding by your favor an appointment as the society's delegate to the trial of agricultural implements at Geneva, in July last, I have the pleasure to present the following

REPORT:

A peculiar feature of the present day is the effort of inventive genius to apply the known principles of mechanical philosophy, as a substitute for muscular power, thus facilitating the labors and relieving the toil of man. Most men of my age can well remember the wooden structure which preceded the introduction of the cast-iron plow among us, and an ungainly thing it was, liable to have its working properties damaged every time it went to the smith, and which, if worked to the depth common at this day, with a single team, would have murdered them. Scythes, rakes, hoes, hay and manure forks, together with carriages and harness, have all been greatly improved in lightness and adaptedness to their respective uses, as well as in durability. We well remember when the double whiffletree superceded hooks in drawing a sleigh, and when horse-rakes, traverse sleighs, and even the now indispensable one-horse wagons were unknown. The improvements of our time have been of progressive growth. Inventions seldom come perfect from either the head or the hand of the inventor, but are gradually improved as experience points out their defects, until they meet all reasonable requirements. The facilities afforded by our laws for securing inventor's rights, have greatly encouraged the inventive turn of our people, and have tended to multi-

ply many important articles to an extent almost embarrassing. Stoves and plows may be given as instances in point; many of the patterns of each article differing only in minor and often immaterial points. This seems to have been eminently the case with many of the reaping machines lately exhibited to the Committee of the State Society at Geneva. The idea of cutting grain by machinery propelled by animal power, is of quite ancient origin. Machines for this purpose are said to have been known to the Romans. Two of their accredited historians, Pliny and Palladius, mention such a machine as used on the plains of Gaul, and it is stated that with one ox, large fields were cut in a day. The Roman machine is imperfectly described, but seems to have been designed to cut and gather only the heads of the grain. The first attempt at reaping machines in modern times, so far as we are able to trace them, were made early in the present century, chiefly in Scotland.

Soon after the trial of Bell's machine in Scotland, several inventors in this country gave their attention almost simultaneously to the getting up of reaping machines. As early as 1832 or 1833, Thomas D. Burrall (whose machine comes off with distinguished honor in the Geneva trial,) constructed one, professedly after the general model of Bell's, with some modifications. In 1833, the Schnebly's, of Maryland, patented improvements in the reaper; and at the harvest of that year Abraham Randall, of Oneida county, put his machine in operation. This seems to have been the first reaper, drawn by a team harnessed forward, all that preceded Randall having the team in the rear, with their heads to the machine. Soon after this came Hussey and then McCormick, now both names of renown. At the time the early efforts in this country were being made, Messrs. Moore & Haskell, of Michigan, conceived an idea of constructing a machine not only for reaping, but also for thrashing, cleaning and sacking it at one operation. This was certainly a magnificent idea, and its conception, at that particular time, affords an illustration of the progressive nature of inventions. Their machine is necessarily complicated and expensive, and required long experience to perfect it; but at last its mechanical arrangements have, by the perseverance of these men, been so perfectly adapted to their purposes,

that this phenomenon in machinery is capable of cutting, thrashing, cleaning and sacking three acres of wheat in one hour. Their first machine was made in 1834.

At the late trial at Geneva, near a dozen different reapers were entered, and for all of them it was claimed that they were equally well adapted to mowing. Ketchum, of Buffalo, alone entered what purported to be only a mower. From Illinois, McCormick, Manny, Ruggs, and Wright, each brought a machine, and so did Seymour and Morgan of Brockport, Densmore, also of Brockport, and Burrall of Geneva, all of our own State. One of the Brockport machines, and that of Wright of Chicago, each had an arrangement of its ma-machinery for depositing grain in gavils, suitable for binding, all the others requiring that work to be done by a hand on the machine. The self-raking apparatus is yet imperfect, and is doomed always to encounter a very obvious difficulty. The machinery throws off the cut grain at regular and equal distances, as the reaper advances; but it is obvious that the gavils thus deposited must vary in size, just in proportion as the grain stands thick on the ground. The machine may be made to do its work with entire accuracy as to distance between bundles, but it must forever lack the judgment needed to make those bundles of a size. Man may make machines accurate, and exact in their performance, but it is beyond his power to endow them with discretion. But this matter, difficult as it seems, may be confidently left to the inventive ingenuity of our countrymen.

On the comparatively level lands of the great wheat-growing west, reaping machines are in general use, and are deemed indispensable when the breadth of wheat sown is so largely disproportioned to the number of laborers. Machines which deliver the cut grain at the side, may be employed to cut a whole crop at the rate of 15 or 20 acres a day, before binding any of it—obviously a great advantage when labor is scarce. Many of the reapers delivered the grain, when cut, immediately in rear of their track, and directly in line of the team track on the next round. The advantages in this case are not so obvious. But that the reaper is a labor-saving machine of immense power and value, when the face of the country favors its operations, is fairly and conclusively proved by trials without number, not only in the far west, but in

the western portion of our own State. There they are coming into common use among our thrifty and economical brethren. But that they would be equally profitable among us is not quite clear. In much of the grain-growing portion of this part of the State the face of the country is rough and hilly; the tillage of numberless fields is marred both by stones and stumps; the shape of fields is often irregular, and the amount of grain sown comparatively so limited that for one I entertain doubts of the general utility of reaping machines among us, at least for the present. These remarks, however, do not apply to the machine as a mower. The meadow ground used for the trial at Geneva, was somewhat uneven of surface; the grass thin, short and shrivelled, and for mowing in the common way, would have been regarded among us as far from first rate; and yet the work was fairly done. The cutting apparatus is from 4½ to 6 feet long, and perfectly straight; it is therefore clear that it cannot adapt itself to the inequalities of an uneven surface. But when meadow lands are laid down as they should be, in order to fit them properly for the common scythe, there is nothing to hinder a machine drawn by one span of horses, and driven by a boy, from cutting and spreading in the best manner ten acres of the stoutest grass in a day, and following it up day after day. They are strongly made, and do not seem liable to get out of order on good ground; and with most of them the mower is converted into a reaper, by attaching a platform for the cut grain to fall on—an operation requiring only a few minutes. Their price was from $105 to $135, and I am glad to announce that Mr. Wood, of Hoosick Falls, has commenced the manufacture of Manny's reaper and mower, for the next harvest. I saw Manny's machine at work, and considered it to be among the very best on trial. But a far better recommendation of it is, it was very generally popular with the great concourse of practical western men who had come together to witness that trial; and by the late report of the committee of the State Society, under whose inspection the trial took place, I observe that to Manny was awarded the first premium for a reaper and mower combined. Ketchum's mower is already in use among us, and I understand gives satisfaction wherever it has been proved, and with another summer will come the opportunity for placing Manny's in competition, where every man can see and judge for himself.

The trial of implements at Geneva, was not confined to reapers and mowers, although for me, these constituted the chief features of interest; plows, horse-powers and thrashers, seed-planters, &c., were also exhibited, and among the competitors our neighbor, Eddy, was found as usual in the front rank.

The broad and fertile fields of the great west have hitherto been so far from market, and so sparsely settled, that we, so near the great market of the sea-board, had little to fear from unfavorable competition. But now they get the same intelligence, and by the same flash of lightning that conveys it to us, the network of rail-roads over the whole country, very nearly annihilates distance; and the improvements in labor-saving machinery, adapted to the culture of the level states, give them an advantage over numbers, and mere muscle exerted on old and worn lands. In order, then, to stand the competition, we must do as our western brethren do, facilitate, and thus cheapen the processes of farm labor by the introduction of labor saving machines, as well as by increasing the productive qualities of our soil by judicious and intelligent culture.

While then we look forward with satisfaction to the day when the muscle, which is now alone employed to perform much of the toil of the farm, shall be aided, and in many cases superceded by mechanical contrivances, we rejoice to know that these advantages to the owner of land can never result in injury to the landless laborer. These all tend by an unerring law to increase the amount, and cheapen the price of the means of living, and to diffuse more widely through the community, the blessings of abundant food and abundant employment.

Report of Dr. Asa Fitch, in favor of an Agricultural College.

The establishment of an Agricultural College and Experimental Farm, is a measure of such obvious importance and utility, as scarcely to call for an argument in its support. Agriculture is the basis of our national wealth and prosperity. It is the pursuit in which a large majority of our citizens are employed. Its many and various operations and processes are direct application of the principles and illustrations of the facts of different sciences,

which sciences are but vaguely, if at all, known to our farmers. Our present academies and colleges furnish but little of that instruction which the practical agriculturist requires; nor can our farmers educate their sons at these institutions without their losing all relish for manual labor. Assuredly we have need of an institution to which the farmer can send his son and have him return to the parental roof, devotedly attached to the agricultural profession, and eager to put in practice the knowledge he has acquired. We have our theological, our medical, and our law schools, all fostered and sustained by State patronage. To the farming class, an agricultural school is fully as necessary as these institutions are to the learned professions. The efficiency which has been imparted to our national defence by an academy, in which the cadet is drilled into a full knowledge and intimate acquaintance with everything pertaining to the soldier's profession is well known. And yet it is no more essential to our national prosperity and greatness, that we have intelligent and expert *defenders* of our soil, than that we have intelligent and expert *tillers* of our soil.

Petitions for such a college have heretofore been presented to the Legislature from this and other counties, and our Chief Magistrates have repeatedly recommended it in their messages. Nor have our legislators manifested any other feelings than those of friendliness to it. Still, the necessary steps for its attainment have never been gone fully through with—solely, as we suppose, because there has been no concert of action, no combination of influence in its favor. We feel that a project of such importance should no longer be neglected by us, therefore,

Resolved, That we recommend to the State Agricultural Society to call a convention, to be composed of five delegates from each county, to be selected by the county agricultural society, for the purpose of conferring upon the subject of an Agricultural College and Experimental Farm, digesting a plan for such an institution, and presenting it to the Legislature, under such auspices as will tend to secure its attainment.

Resolved, That we regard the city of Albany as the most suitable place for holding said convention, and the time, the days succeeding the next annual meeting of the State Agricultural Society.

Resolved, That the following persons be the delegates to represent Washington county in said convention: Asa Fitch, J. T. Masters, J. McDonald, and the President, (J. M. Stevenson,) and Secretary, (Leroy Mowry,) of this society.

Officers for 1853.—Milo Ingalsbee, President; LeRoy Mowry, Recording Secretary; James S. McDonald, Assistant do.; Rev. E. H. Newton, Corresponding Secretary.

WAYNE.

Report of E. N. Thomas, President.

This county held two fairs, one at Wolcott, Sept. 21st and 22d, and at Palmyra, Sept. 28th and 29th. The show compared well with former exhibitions. The stock cattle shown were mostly of the Devon variety, with their grades. Matched and single horses, and colts were on hand, among which were fine specimens of Sampsons, Harveys, Consternations, Morgans, Normans &c.; a fine display of working oxen, was exhibited at Wolcot. There is a growing interest among the farmers of Wayne county, to obtain and rear fine stock, and much attention for the last few years, has been paid to this branch of our agricultural interests, the result of which is, that fine specimens of horses, cattle, sheep, swine and poultry, can be shown, which will be a credit to the county, and gratifying to its farmers. Great interest was manifested at the plowing matches, and much more attention of late has been waked up to this subject. Thorough and deep plowing is becoming the order of the day, and a better system of farming is becoming fashionable, as the county is improving in its railroads, canals, plank roads and highways: it is with pride that our farmers fix up their buildings and fences, yards, ornamental trees, and being the banner county for fruit, in this department our motto is "onward and upward" to perfection. The shipping apples are well known in the eastern and southern markets, and duly appreciated. In the domestic manufactures and mechanical branches of business, we are steadily progressing, and improvement in machinery for farming purposes, is rapidly on the advance.

The drought of the past season lessened somewhat the crop of hay, but in wheat, corn, oats and barley, the crops exhibited their usual good returns. The potato crop is on the increase and but little complaint on account of the rot.

The present state of the market has been such as to give the farmer his turn at the good things of this life, and the cry of hard times and poor prices has gone by, and when farming pays well it is not surprising that it becomes popular with all professions, and by the rapid improvement of our soil by the harrow, fertilizers at hand with due regard to rotation of crops, the time will soon arrive, when the statistics will show a large increase in yield The subject of draining has been waking up in this county, and much has been done, and fully to the satisfaction of those interested, when the work has been properly performed—and for years to come this improvement will still go on, and result in making better farms and more healthy neighborhoods.

The show of floral hall and needle-work was truly a credit to the fair daughters of the county, and the great variety of fruits and vegetables, and their enormous size were truly astonishing.

Excellent addresses were delivered before the society at Wolcott by John Delafield, Esq., and at Palmyra by S. R. Williams, Esq.

In reply to a circular, the following answers were received, showing what has been purchased and shipped, in some of the localities of this county.

Purchased and shipped from Rose, 37,143 pounds of pork in the hog; 18,000 pounds of butter; 180 barrels eggs; 25,000 pounds dried apples.

The funds of the society, on 28th December were as follows:

Funds on hand from last year	$165 65
Received at fairs 1852	240 00
From Treasurer of State.....	126 00
	$531 65
Expended in premiums and expenses so far,	257 51
	$274 14

Some premiums yet to be paid.

At the annual meeting held December 8th 1852, Mr. Fletcher Williams of Newark was elected President; A. G. Percy, Arcadia, Rec. and Cor. Secretary; James D. Ford of Newark, Treasurer.

Respectfully submitted,

ERON N. THOMAS.

Fbuary 10th 1853.

Statement of the profits of Mr. Joseph Watson's farm, Clyde, of fifty acres, to which a premium of $15 *was awarded.*

At the beginning of his book is a map of the farm, with its subdivisions numbered, and the area of each designated. With each of these fields an account is opened, containing a double column for charges and credits, of which the following is a specimen:

Lot or field No. 10,—four acres, reclaimed marsh.

1852.	Dr.	Cr.
May 27—To four days plowing into ridges for corn, being new, low and wet,	$4 00	
To 4½ days planting corn, potatoes, beans and carrots, 75c.,	3 37	
To corn seed, 60c; 4 bushels potatoes $3,	3 60	
June 22—To 5 days hoeing 62½c.; 2 days with shovel plow, $1,	5 13	
July 8—To 1 day shovel plow, 4 days hoeing,	3 50	
Oct. 14—To husking 230 bu. ears corn, various parts of days, 3c. per bushel,	6 90	
By 230 bu. ears of corn, 25c		57 50
Oct. 19—To digging potatoes, 2 days,	1 50	
By 68 bu. potatoes, 25c.,		17 00
By 6 bu. carrots, 25c.,		1 50
By 2½ bu. beans, $2,		5 00
To pulling and drawing carrots and beans, and thrashing beans,	50	
To drawing 6 loads stalks, worth $2 per load,	1 50	12
Oct. 30—To drawing 6 loads pumpkins, worth $1 each,	1 00	6
	31 00	99 00
Net profit for 4 acres, or $17 per acre,	68 00	
	99 00	99 00
Carried to balance account,	.. ..	68 00

More minuteness in designating the quantity of land devoted to the separate crops, and separating the amount of labor devoted to each, would make the record more valuable, by showing the relative profits. The balance from each field is carried to the general *balance account*, which exhibits in a summary form the profits of the whole farm. The following is the summary for 1852—and includes the report of the *unsuccessful* as well as the *successful* operations; or in other words, a complete transcript of the whole yearly management of the farm:

	No. acres.	Dr. Am. Exp.	Cr. Am. Pro.	Dr.	Bal. Cr.
Lot No. 1—Oats, &c.,	1½	9 ..	19 60		10 66
" 2—Hoed crops and fruit	1¼	17 75	66 75		49 00
" 3—Meadow and orchard,	3⅓	12 75	79 25		66 50
" 4—Sheep pasture,	1		5 00		5 00
" 5—Wheat,	8	87 67	259 75		172 08
" 6—Corn and roots,	3½	55 12	174 20		118 84
" 7—Meadow,	7	16 75	110 00		93 25
" 8, 9, 11—Pasture and wood,	15½				
Profit on stock,					145 90
" 10—Corn, &c.,	4	31 00	99 00		68 00
Poultry,		37 14	68 15		31 01
Sheep,		39 25	46 07		6 82
Swine,		55 60	84 60		29
Farm implements, (paid for new ones,)		.. ..	.. ..	81 38	
Farm improvements, (tile draining, &c.,)		.. ..	.. ..	110 50	
Family expenses,		.. ..	.. ..	140 99	
Incidental expenses and taxes,		.. ..	.. ..	62 31	
Balance carried down,				399 18	
				795 16	795 16
Net proceeds of 45 acres, above all expenditures,					399 18

It will be seen by the above account that the actual net profits of each field, as they are usually reported, (that is, without reckoning the family expenses, farm improvements, taxes, &c.,) is nearly eight hundred dollars—a very large amount for a fifty acre farm—the correctness of which we do not doubt, as we have had an opportunity of examining personally the whole of the premises.

Farmers who have not kept well arranged farm records, may procure a small quarto blank book for fifty cents or less, ruled as above; every right hand page may be devoted to each field or branch of farming; and the left hand facing page, to remarks. These remarks, made in season, while the subject is fresh in the farmer's mind, will form an excellent memorandum book of operations for the next year, so that errors may be avoided and successful courses repeated, and in the course of a few years such a degree of experience attained in balancing profits and losses, as shall enable any careful and industrious land-owner to reach the highest successful results.

PALMYRA, *January* 22, 1853.

Dear Sir: I hope you will not attribute my silence to want of interest in the subject presented me. I have made three statistics of my business for the last two days, and in most instances, merchants have opened their books to me, and figures have been made under my own eye, and in others, figures had been made previous to my calling.

Pork purchased,	lbs	.....	509,124
Beef "	bbls	.....	425
Wheat "	bus	.....	127,087
Corn "	"	.....	29,694
Oats "	"	.....	69,952
Barley "	"	.....	70,296
Dry apples "	lbs	.....	200,629
" peaches "	"	.....	14,484
" plums "	"	.....	16,000

Green apples	"	bbls.....	5,844
Butter	"	.....	29,980
Eggs purchased,		doz.....	41,895
Wool	"	lbs.....	73,464
Potash	"	bbls	60
Flour	"	"	500
Poultry	"	lbs.....	46,000
Alcohol	"	gals.....	211,995
Live fat hogs, 3,100 wt., a value of.....			$25,400
Shingles,		.....	800,000
Pine Lumber,		ft.....	1,500,000

These items are used here, and in this vicinity.

A portion of the oats were consumed here, as well as the pine lumber, but all other articles, were those and those only, that sought a market abroad, and did not enter into the consumption of our community. The grain used in our distillery is not counted as grain, as the product is shown in the alcohol, and live hogs, which were sent from this establishment entirely.

STEPHEN HYAR.

WOLCOTT.

Pork purchased, lbs.....			37,500
Wheat	"	bu.....	1,666
Corn	"	"	1,250
Oats	"	"	3,800
Barley	"	"	742
Buck wheat	"	"	305
Butter	"	lbs.....	77,500
Eggs	"	no.....	280,000
Dry apples	"	lbs.....	46,000
Dry peaches	"	"	2,660
Lard	"	"	850
Cheese	"	"	1,200
Beans	"	bu.....	145
Peas	"	"	15
Plums	"	lbs.....	400
Berries	"	"	160

Pultneyville, *January 5th*, 1853.

Mr. E. N. Thomas.

Dear Sir: Your letter requesting me to send you the amount of different articles, bought in this market for the past year, is received. In reply I will give you as near as I can, the amount of such articles.

Rye	50 bu.
Oats	2,000 "
Barley	none
Dried apples	2,500 lbs.
Butter	14,000 "
Eggs	5,500 doz.
Pork (no market)	3,000 lbs.

Wheat no market last year.

Yours most respectfully,

JOHN REYNOLDS.

WAYNE COUNTY STATISTICS.

	1850.	1845.	Increase.	Decrease.
Improved acres,	233,603	206,900	26,703	.....
Unimproved,	97,857	.....	.....	.....
Horses,	12,127	12,258	.....	131
Milch Cows,	14,037	16,833	.....	2,796
Working Oxen,	2,432	33,891	.....	1,113
Other cattle,	16,309			
Sheep,	81,279	130,562	.....	49,283
Swine,	20,702	35,873	.....	15,171
Wheat,	614,041	587,817	26,224	.....
Rye,	44,237	4,178	40,059	.....
Corn,	660,739	441,515	219,194	.....
Oats,	518,051	476,422	41,629	.....
Barley,	107,453	48,236	59,217	.....
Buckwheat,	27,486	57,187	.....	29,701
Peas and Beans,	4,191	42,228	.....	38,037
Potatoes,	278,217	531,941	.....	253,724
Butter,	1,367,867	1,466,124	.....	98,257
Cheese,	173,930	305,067	.....	131,137
Wool,	255,289	280,256	.....	24,967
Hay,	54,031	.....	.....	.....
Clover seed,	2,791	.....	.....	.....
Other grass seed,	1,443	.....	.....	.....

Flax,	2,663	98,498	.....	95,833
Flax seed,	467	.....	.....	.....
Maple sugar,	45,497	.....	.....	.....
Molasses,	322	.....	.....	.....
Domestic fabrics,	$31,287	$73,777	.....	$42,490
Animals slaughtered,	$263,728	.....	.....	.....
Honey and Beeswax,	29,948	.....	.....	.....
Population,	44,967	42,515	2,452	.....

WESTCHESTER.

The Society of Agriculture and Horticulture of Westchester county, N. Y., has completed its eighth annual fair, and at no period since its establishment has its friends had more cause for congratulation and encouragement than on the present occasion. Many persons who for years past have been watching its progress with listlessness and apparent indifference, have more recently awaked from this state of lukewarmness, and manifest a determination to make such changes in the culture of their farms as will secure a better return for the labor bestowed. They have also given evidence of their desire for information, by attending our fairs, and witnessing the variety of articles, useful and ornamental, there exhibited. Not a few at our last fair were taken by surprise in beholding such a display of choice fruits as has never before been exhibited in the county of Westchester, and rarely on any occasion in the State. The varieties of beautiful and excellent apples, pears, grapes, and other fruits, choice vegetables and flowers, that were crowded into floral hall, were well calculated to arouse a determination in the beholders, and stimulate them to commence the work, and prove to the world that good examples are contagious, and that where there is a will there will soon be found a way to secure the possession of such valuable treasures, as are not only useful and beautiful, but what is very important to the farmer, give an adequate return for the care and industry bestowed in securing a bountiful crop.

There is evidently a growing taste for choice fruits among all classes of the community, and a well founded impression exists, that the free use of them contributes greatly to the promotion of health. To this cause, as well as the delightful adaptation of the taste and appetite for such productions, we must ascribe the reason for the great demand, at fair prices, amid the most abundant harvests.

Farmers are more generally placing their manures and bestowing their labor on a less number of acres than formerly; and in this manner are making the soil capable of a greater yield, than when they cultivated less perfectly a much larger surface.

This discovery, and an enhanced price, have induced many farmers to sell a portion of their lands to the numerous purchasers from the city of New-York, who, from the great facilities afforded by the several railroads that traverse the county, are induced to seek a home among us, and enjoy the pure air, the enchanting scenery, the rich fruits and flowers, and the productive harvests which a correct system of horticulture and agriculture can secure to country life; while others, less inclined to part with any portion of their patrimony, adopt the plan of cultivating less land, doing it in the best manner, and laying down for meadow or pasturage a large moiety of their farms. In this way they can combine the profits arising from the dairy, and fattening stock for the city market, or dispose of their hay instead, with all the other products of the farm.

Many of our large land-owners have turned their attention still more to the improvement of their breeds of cattle, by crossing with the Durham, Devon, Ayrshire, and other high bred stock from Europe. We would on this occasion remark, that several of our citizens have latterly bestowed great attention on this subject, in securing a superior race for the dairy, and farm stock for general purposes, which entitles them to the thanks of the community. We have had annual public sales in this county, for the disposal of choice animals of pure and grade blood, which have been attended by a large number of purchasers from various parts of the Union. This has greatly increased the demand for fine animals, and made it an object of sufficient moment with some of our enterprising breeders of stock, to make an annual trip to Europe to replenish their herds with those, if possible, that are still finer.

The prices of lands in this county have been much enhanced by the great facilities the railroads afford, for rapid daily and hourly communication with the city of New-York; villages increasing rapidly, and new ones forming along the borders of these public thoroughfares, which make it self-evident to the farmer, that he must either adapt his agriculture and horticulture to these changes, so as to enhance the production of his lands, or submit to a small interest on the price his farm would command in the market. This is causing many to enrich their lands as far as they can ob-

tain the requisite materials at a moderate cost. They are awaking to the importance of securing the treasures in those great storehouses of nature, the immense alluvial and muck deposits that abound in this county. It is not strange they should wish to add the enriching qualities of these deposits to many of their exhausted fields; it is much more surprising that they, as well as the farmers in many other sections of the country, should have laid out thousands of dollars for costly manures from the city of New-York, while thousands of loads of the best materials for enriching their farms, which in many cases was in part washed from their surrounding hills, were accumulated in the deep valleys, in sight of their own dwellings. This state of things cannot last long, when the example of those who have made the trial shows the great increase of crop, at small expense, that this supply will give.

The prospects of the society are brightening, our premium list is increasing in amount, and the number of articles enhanced within its range. We have, during the past year, increased the sum to about one thousand dollars, and our treasurer, as you will perceive in his report, has paid out in cash, beside the books, diplomas, &c., distributed to those entitled to premiums, over nine hundred dollars; and we have the means, with the one hundred and forty-six dollars to be received from the State, to pay hundreds more.

The exhibition of fine cattle was not so large as we could have wished, some of the usual exhibitors having parted with considerable of their stock to fill orders from a distance, and others had very fine animals too recently imported to entitle them to compete for a premium. Among the different classes exhibited was a superior lot of Devons, by Edward G. Faile, Esq.

Some owners of fine stock object to the three days their cattle are, by present arrangement, kept from their homes. It is proposed by many to meet this objection, to permit the entry of stock to be made as late as 11 or 12 o'clock on the second day of the fair, so that that day and the following, and till 4 o'clock P. M., would be the limit of time for which the stock exhibition would be kept. This, it is supposed, will obviate all objections to the time of exhibition, and secure a large number another year.

Some fine horses were exhibited, especially matched teams. The competition in the grain crops was not as spirited, nor the exhibitors as numerous as in those sections of country, where these articles constitute the principal remunerating products. The raising of potatoes, making butter, and furnishing milk for the supply of the city of New-York, are very important operations, for a large number of our farmers. You will observe, among the reports on field crops, that we have given a premium on potatoes, which was obtained by the grower of five hundred and twenty six bushels of black mercers on two acres of ground. This amount would have been considered a very fine crop at a former period, before the potato rot made its appearance, this disease however, has been much less serious, for two or three years past. The articles of domestic manufacture, useful and ornamental, were very commendable; and give encouragement to hope that ere long these productions will give still greater interest to our fairs.

The establishment of farmers' clubs, in the different towns, in accordance with the provisions of the constitution of our society, we consider an object of primary importance. Much advantage we believe, has been derived by the farmers in the vicinity, from one in successful operation, in Louisboro, a town in the north eastern portion of this county, and we hope their example and success, will not be lost on the inhabitants in other sections.

In surveying the grounds over which we have passed, we find cause for encouragement and congratulation. That spirit of inquiry which we believe the society has done much to awaken among us, will lead forward to the accomplishment of the happiest results. The deep plowing, with under draining, when necessary, the enriching of the hills, by the conveying of the muck and alluvial deposits from the valleys, and swamps below, the increased production by better tillage on a smaller surface, the introduction of all the choice fruits, suitable for this climate, the care bestowed upon the dairy, and the marked attention given to the introduction of choice high bred animals among our farmers, planting the highways with the locust, elm and sugar maple, are calculated to change the aspect of the county, and make it far

more interesting and beautiful; and at the same time add greatly to its agricultural and horticultural productions.

All of which is respectfully submitted,

R. T. UNDERHILL, M. D.

Croton Point, December, 1852. *President.*

WYOMING.

The annual fair of the Wyoming County Agricultural Association was held agreeable to previous notice, on the 22d and 23d o September. The weather was peculiarly delightful, and the crowd was immense.

The exhibition was not what it ought to be for Wyoming county, though in many respects it was better than last year. The show of horses and colts was better than ever, some extraordinary ones were from Genesee county. There was a fine exhibition of two and three year old steers, and other young stock of the Durham and Devon breeds. There were some choice specimens of long-wooled sheep, and one extraordinary French buck, valued at $600; likewise, some very beautiful Spanish merinos. Only a few swine were presented, worthy of premiums. Some fine lots of poultry were seen, which appear to be an improvement upon the common kinds. A few farming implements were shown, which were so highly polished that they reflected great credit upon the manufacturer. Likewise some mechanical productions of rare workmanship, which, I think, are seldom, if ever excelled.

In the domestic department were some fine specimens of female industry, which were not at all behind the times.

We have procured a tent which cost upwards of $200, which seems among other things to be indispensably necessary to the prosperity of our association. Another thing we still lack, which is money; we are unable through the ordinary means to offer

premiums sufficient to induce the people to bring out their products and compete. I believe many of the counties of the State are in the same want of sufficient funds to carry forward so important an enterprise. While the State association is surfeited with money, the counties are left weak, and some of them entirely inoperative.

It appears to me that the premiums offered in the State Society are so large, that there is danger that the competitors will be more ambitious for the game than the name: thereby the emoluments arising therefrom are thrown into the hands of monied men, or monopolised by them, and the masses left without sufficient encouragement to stimulate them to action. Would it not be well for the Legislature to take the matter into consideration, and adopt some method which would give a new impulse to the county associations.

Hon. Hugh T. Brooks addressed the assemblage on the first day. On the second day the plowing match was held, and resulted in great credit to those engaged. The election of officers was attended to, and Newbury Bronson was chosen President, and one Vice President in each town. H. L. Comstock was appointed Recording Secretary; Wm. Bristol, jr., Corresponding Secretary. Town vigilance committees were also appointed. The meeting adjourned to meet again at the call of the President.

N. BRONSON, *President.*

WYOMING Co., *Warsaw, Dec.* 22, 1852.

HON. B. P. JOHNSON:

Dear Sir—Your circular of October 4th came duly to hand, containing inquiries concerning the agricultural aspects of our county. I have not been able to devote as much time to the subject as it really demands, but will endeavor to answer the questions according to the best information that I have at hand.

1st. The chief product is grass.

2d. There is evidently a gradual increase from year to year, at what rate I am not able to tell.

3d. *The number of acres devoted to grass, the quantity and quality produced.*—I have no data from which to deduce an accurate estimate of the number of acres or the quantity produced. I know of no way to estimate the quantity produced upon pastures, only by the acre. As to the quality it is universally good throughout the county.

4th. *The condition generally of other important products, and the average quantity.*—Wheat is next in importance. The eastern part of the county is tolerably well adapted to it, whilst the western part, (it being divided by the Wyoming valley,) is better adapted to grass, oats, potatoes, barley, &c. Wool-growing is next in importance. There is a large quantity grown in the county, and most of it is of most excellent quality. The breeds mostly kept are the Spanish Merino and Saxony, though the Saxony are fast going out of repute, on account of the tenderness of the animal and the light fleece. The French Merino breed is likely to take place of the Saxony soon. Some of our most scientific farmers are turning their attention to the Bakewell and Leicestershire breeds for mutton. It promises to pay well. The dairy business is becoming an important item in our agricultural concerns, and a very safe and lucrative business. Butter, cheese, pork, mutton and wool are destined to be the staple commodities of the county. There is an increasing interest manifested among dairymen about who shall excel in quality. I never have seen better specimens of butter and cheese exhibited at the State fairs than at our county fairs.

5th. *The increase or decrease of the number of acres under tillage for all purposes.*—There is undoubtedly a decrease on account of the low price of wheat and the high price of all kinds of meats, and upon some soils the failure of the wheat crop. There is an unusual interest manifested in the grazing interests throughout the county.

6th. *The increase or decrease of the number of animal stock.*—The unusual demand for cattle and sheep this year, I think, may have reduced the number, but I am not prepared to state definitely. The breeds most common are grades or a mixture of all breeds. There is a number of breeds in the county of the pure

blood, Devon and Durham. There is an increasing demand for those breeds, and I think a cross of them makes the finest working cattle I ever saw. The native breed are the best milkers, of course the best approved, if they could be obtained, but the milkers are mostly grades. The Durham, I think, are best approved for beef or for market.

7*th. The increase, decrease, or absence of scientific attention to farming.*—There is, beyond a doubt, a gradual increase in that direction.

8*th. Has drainage received attention.*—It has to some extent, and its advantages are great in wheat cultivation; not so much so when grass is the object.

9*th. The increase, decrease, or stationary value of farms.*—Farms in the western part of the county have enhanced in value from 10 to 25 per cent within the past year, partly in consequence of the new railroad which passes nearly through the center of the county, which affects the western more than the eastern part.

10*th. The place where the products of the county are marketed.*—There are various places where the produce is sold, viz: Buffalo, and on the line of the Erie canal, Rochester, Cuylerville, (which is the market for wheat) and New-York. The expense for marketing, I think, is from 3 to 25 per cent, according to circumstances. I think an average might not be far from 12½ per cent. I regret, dear sir, that I have not been able to answer your interrogatories more minutely or in figures, which, I presume, would have been more satisfactory to you and your associates; but I must leave the subject, and transmit it to you as it is.

Very respectfully,

Your obedient servant,

N. BRONSON.

YATES.

The Yates County Agricultural Society, held its annual fair in the town of Dundee on the 13th and 14th of October.

The exhibition in all its departments was most creditable to the county. The show of horses and cattle, was one which attracted much attention, and the sheep, swine and poultry were not among the least of the attractions of this department.

Implements of various kinds, useful for the farmer were shown, in the highest degree creditable to the mechanics and manufacturers of the county.

The display of stoves, calculated to facilitate the labors of the housewife, excited no little attention. Vegetables and fruits in great variety and of an excellence that can scarcely be surpassed, were shown. The attention which is being given to choice fruit, is most commendable.

At the winter meeting, there was a good attendance, and the feeling manifested for the advancement of the interests of agriculture, and to sustain the society was encouraging.

From the spirit manifested at this meeting, it is believed that the society which is now in a prosperous condition, will continue to advance, and its usefulness be more widely extended.

Officers for 1853.—President, Nelson Thompson; Secretary, Guy Shaw; Treasurer, Edwin R. Randall. Vice Presidents, Benj. Cheever, of Starkey; Ezekiel Clark, Jerusalem; Alexander F. Whitaker, Benton; Melatiah H. Lawrence, Milo; Charles Stark, Torrey; John Spicer, Barrington; John Underwood, Potter; Ephraim Lord, Middlesex; Elisha Doubleday, Italy. Executive committee, Uriah Hanford, John Mallory, R. Gildersleeve, David L. Phelps, Charles G. Tuthill.

Funds.

No. of members, 146, paid $1.00 each,.....	$146 00
Received of State,.....	61 00
In the hands of treasurer previous to Oct., 1852,....	323 36

The treasurer reports that there is in his hands after paying a portion of the expenses and premiums, Jan. 8th, 1853, ... $155,68

GUY SHAW, *Secretary.*

ESSEX.

The Essex County Agricultural Society had its fair and cattle show on the 20th, 21st and 22d days of September last. There were more exhibitors, more and better stock, a greater variety of manufactured articles, and a larger general attendance than at any previous fair.

The judges having made their reports in the afternoon of the third day, the society, and others present, were highly entertained with an eloquent and highly appropriate address, from the Hon. B. P. Johnson, Secretary of the State Society.

The society is in a flourishing condition; as to members its numbers are 256.

The annual election was held at the Valley House, on the 8th of December last; the following officers were elected:

President, Hon. Winslow C. Watson, Port Kent; Treasurer, L. D. Brown, of Elizabethtown; Secretary, G. S. Nicholson, of Elizabethtown, and 19 Vice-Presidents.

Receipts and Expenditures.

Amount on hand January 1, 1853,....		$83 68
Cash from State Treasurer, ...		71 00
Cash from members, &c., ...		421 25
		$575 93
Paid premiums, ...	$119 75	
Paid printers, gate-keepers, &c., ...	178 18	
		$597 93
Due treasurer, ...		$22 00

G. S. NICHOLSON, *Secretary.*

REPORT ON SURVEY OF ESSEX COUNTY.

It is admitted, that the first motives to industry are derived from the necessity for sustenance; it follows that, accumulation, whether of food or of any other material object, leads to an interchange of commodities and an increase of our desires: these desires stimulate industry, and industry inspires a taste for a more extended enjoyment of civilized life. Hence it may be argued that to render a people industrious, a careful endeavor should be exerted to introduce a moral taste for refinement, and luxury. In other words, that we should by all practical methods increase, and freely afford to all, the enjoyments of civilized life by the exercise of knowledge, the arts, and learning generally.

It has been argued, though feebly, that happiness is not increased by a departure from rustic simplicity, substituting the addition of an increasing appetite for wealth; that the untaught, being largely supplied with fish from the waters and potatoes from the earth, are as cheerful and truly happy, as the most learned or the most wealthy.

We need not argue the question at this time, yet the remark is ready that, with the very dawn of reason we begin naturally to learn, and the *desire* to improve comes with us into the world: and further, we uniformly find ambition and enterprise to occur in all things, most keen where freedom and prosperity exist.

We all know that our lot is to labor, either with our hands, or our minds, or with both; yet we are not always ready to admit, that this labor, apart from the wealth it procures for us, is of far greater value than the blessings coveted and produced. Reflection, however, and a continued series of observations seem to have made it evident and conclusive that the tastes which

rise from an interchange of objects, are incentives to industry causing a demand for an increase of various products from the earth; and they arouse exertion, giving vigor to the arm and mind.

These views are brought vividly before us while perusing Mr. Watson's able Survey of the county of Essex; a work abounding in facts, closely interwoven not only with the physical condition of man, but including also his social, political and commercial relations, as connected with a portion of the State of New-York, which may be deemed classic, because of events and actions both remarkable and interesting, carrying their influences upon our nation, to the present period.

Time has already enveloped many historical facts in misty obscurity, in the investigation of which Mr. Watson has happily dispelled the clouds, exhibiting to us treasures of truth and art. In this respect we regard the civil history of Essex as an important link in the records of our country. The division appropriated to the physical history and topograpy of the county, opens to view wild regions and scenes, tempting the imagination to pass from facts and realities to poetic dreams and fancies. The mountain precipice and cataract; the murky glen and Indian pass are truthfully depicted, while the treasures of ravines, rich in gems and still more valuable mineral deposits, exhibit sources of wealth and commercial exchange, rich beyond our previous hopes.

The discoveries of Mr. Watson claimed from him a perseverance and intrepidity, which in an eminent degree have marked his character; and we think, entitle him to a distinguished rank among the patrons and friends of the State Society, and especially of his much favored county. He has exhibited the industrial resources of Essex county with ability, explaining their commercial economy, their rise and fall, and present progress.

The agricultural division of the work presents features of interest unexpected to us, and exhibits a climate where the grape has flourished in profusion: the wild apple and plum cover the hill sides, and the wild cherry forms entire groves in the fastnesses of the Adirondacs.

Upon due consideration, we commend Mr. Watson's work as sustaining the desires of the State Agricultural Society, and thus producing for the State and Nation, the continuation of a series of works better adapted to develop our resources than has heretofore been attempted.

While thus presenting the views of your committee upon the manuscript survey of Essex county, we would remark that the chief aim of the State Society in promoting the surveys of the counties of the State, was to develop their agricultural capabilities, systems, modes of practice, and the means for improvement. This object was of sufficient magnitude to enlist science in the enterprise, and to awaken a fond taste for enjoyments springing very naturally from labor applied to the soil, when guided by science. At the very threshold, we find a gentleman of high scientific attainments offering his aid to the society, whose efforts shed a happy influence on the enterprise, at once proving its value, and causing a generous rivalry among the counties of the State for precedence in the order of survey. It may be a matter of congratulation to farmers, that from their own class, men stepped forward to conduct the surveys of the three next counties selected by the Society—a bold undertaking for men devoted to the plow. Yet they are before us, in all their plainness and simplicity, monuments at least of an agricultural zeal, and a compilation of facts and observations forming a solid basis for a superstructure of practical improvement. It was soon manifest that no survey could be made with utility or truth, unless based upon the broad geological features of the region under examination: a positive knowledge of the soils under cultivation; in order to exhibit to the farmer the material elements of his profession, and enable all, just entering upon the virgin soils of the country, to judge more accurately of their powers and value.

A positive knowlege of the mineral wealth embosomed in the vast unexamined surfaces of many counties, is important not to the possessor only, but to the revenues of the State. In this respect the examination of Essex county by Mr. Watson is pre-eminently successful.

Thus the county surveys, intended for agricultural advancement, have incidentally and naturally led the way to investiga-

tions strictly connected with the earth and its uses, yet resulting in the formation of works exceeding in magnitude the early views of the Society. The committee ask attention to this subject because in each survey thus far made, the fear of exceeding a limited number of pages seems to have operated disadvantageously upon the mind of the investigator, and useful facts and suggestions are withheld, which might add wealth to the farmer and revenue to the State. With these views, we suggest an extension or withdrawal of the limit. At the same time we would strongly urge a cautious guard against the seductive and dangerous propensities of introducing leading ideas and making facts subservient to them.

These expressions have no bearing on the work before us, and are intended only to suggest wider limits to future surveyors with due caution.

In conclusion we congratulate the Society on the acquisition of the survey of Essex county, and commend it for publication in the Transactions of the Society.

J. DELAFIELD,
E. P. PRENTICE,
WILLIAM KELLY.

A GENERAL VIEW

AND

AGRICULTURAL SURVEY

OF THE

COUNTY OF ESSEX.

TAKEN UNDER THE APPOINTMENT OF

The New-York State Agricultural Society,

BY WINSLOW C. WATSON, Esq.

CONTENTS.

PART I. CIVIL AND POLITICAL HISTORY.

PART II. PHYSICAL GEOGRAPHY.

- MOUNTAINS.
- LAKES.
- RIVERS.
- NATURAL CURIOSITIES.

PART III. NATURAL HISTORY:

- ANIMALS.
- FISH.
- FRUITS.
- PLANTS.
- REPTILES.
- CLIMATE AND WINDS.

PART IV. MINERALOGY AND GEOLOGY:

- DRIFT AND DILUVIAL FORMATIONS.
- NATIVE FERTILIZERS.
- MINERAL SPRINGS.

PART V. INDUSTRIAL PROGRESS AND PURSUITS:

- PUBLIC IMPROVEMENTS

PART VI. AGRICULTURE:

- CROPS.
- STOCK.
- HUSBANDRY.
- MARKETS.
- FRUIT.
- ANALYSES OF SOILS.

APPENDIX.

PART I.

CIVIL AND POLITICAL HISTORY.

CHAPTER I.

TO THE DISCOVERY.

The territory, now distinguished by the general designation, of the valley of Lake Champlain was for nearly a century, a debatable ground between the powers of France and England. Claimed by each under arbitrary charters or imaginary titles, overrun and subverted in turn by both, and permanently occupied by neither, it derived from the presence of their armies, little amelioration of its primitive savage aspect.

Earlier than this period, the same region seems to have been the frontier between tribes, or confederacies of tribes of aborigines, who waged a perpetual warfare of ferocious extermination. These circumstances, it is probable had consigned it to desolation and prevented the occupation of the country by a race, which would have been allured to it, by the strong attractions to the savage mind, created by the profusion of its game and fish. The possessions of the Indians were apparently most extended and permanent on the eastern shores of the lake. Few vestiges of their existence have been discovered, upon its western borders. They appear, however, to have congregated in numerous villages along the lakes and rivers of the interior. The bold and lofty mountains which envelop that region, formed to them a bulwark against the assaults of their foes, while the forests and the streams yielded an abundant supply of their humble wants.

At a period nearly cotemporaneous with the discovery of Canada by the French, the Roman energies and the extraordinary military prowess of the Mohawks appear to have borne their arms and

established their dominion almost to the southern shores of the St. Lawrence. The long and narrow tract of water, known to us as Lake Champlain, was doubtless the war-path of the Huron and Iroquois, in their mutual hostile and sanguinary incursions. The mind may readily portray fleets of the Indian war canoes, caparisoned in the gorgeous trappings of barbaric pomp, bounding over the dark and still waters of the lake, while the paddles kept tune to the cadence of their war songs; or gliding stealthily along the silent shores, upon their mission of rapine and blood. The Indian in reference doubtless to the fact that it afforded an avenue and facility to their reciprocal attacks, gave to the lake the impressive and appropriate name of "Caniadere-guarante," i. e. "The lake that is the gate of the country."* An ally of the Hurons, Champlain accompanied them in one of these incursions and revealed to the civilized world the beautiful lake which has immortalized his own name.

Samuel Champlain was one of those remarkable men who seem to stamp an impress of their own characters upon the ages they illustrate by their services and exploits. Champlain was a native of France, of noble lineage. At an early age he was attached to the royal marine of that nation. Eminently imbued with the impulsive and impetuous spirit of his country, animated by a bold and reckless courage, fearless in encountering danger and toil, his intuitive sagacity enabled him to surmount the ordinary obstacles that his intelligence and prescience could not anticipate and avoid. Enthusiastic, persevering and unyielding in his purposes, he devoted all the powers of his active mind and the energies of his character to the achievement of the great object of his life, the exploration of the wildernesses of the new world, and the foundation, in their recesses, of a new empire to his country. De Soto discovered the Mississippi, and while he found an appropriate mausoleum beneath its turbulent water, has left no memorial of his name. Champlain, more fortunate, rendered his discovery a monument, which has perpetuated alike, his services and his memory.

* Documentary History.

"Petaonbough," signifying "a double pond or lake branching out into two," is another aboriginal appellation, probably referring to its connection with Lake George.

R. W. LIVINGSTON, ESQ.

France, entered with ardor and enthusiasm into the great struggle of the age, the field of exploration upon the new continent. The zeal and enterprise of the fishermen of Normandy had already discovered and penetrated the gulf of St Lawrence. Cartier, a French adventurer, entered in 1534, the mighty river of that name. The succeeding year, he guided to his new discovery, under the auspices of the royal government, a fleet, freighted with many of the young nobility of France, and blessed by the prayers and sanctions of the church. They departed in high hopes and with brilliant auguries to colonize this new France. Ascending the majestic stream, which then first received together with its estuary the name of "St. Lawrence," they anchored, at what is now called the Isle of Orleans. Cartier penetrated from this in his open boats, to the Indian "Hochelaga," named by him Mont Real—the Montreal of the present age. Here he received from the Indians the first intelligence, indistinct and shadowy, of the region of Lake Champlain. The ensuing winter was passed by the colonists at the Isle of Orleans, in intense suffering, from the rigors of the climate and the presence of disease.

Having taken possession of the country, with all the prescribed pomp and formulas of chivalry and religion, the colonization was abandoned and the expedition returned early in the season, to the mother country. This experiment ending thus inauspiciously, and the climate and country presenting to the children of sunny France, so few allurements, all schemes of further colonization seem to have slumbered, for several years. The "Lord of Roberval," received in 1540 a commission from the French King, conferring on him an immense and almost illimitable territory, and which dignified him with the plenary powers of vice royalty.

This parchment title and these titular functions overshadowed a vast region, and extended in every direction along the gulf and river St. Lawrence, comprehending in its wide domain the present limits of New England and Northern New-York. The efforts emanating from this authority, appear to have terminated without accomplishing any progress either in colonization or discovery.

During the half century succeeding the failure of Roberval, the subject of New France was unheeded amid the convulsions and conflicts of the religious wars by which the kingdom in that period was torn and agitated. In 1598, another abortive attempt, under governmental patronage, was made to colonize the region of the St. Lawrence, by disgorging upon its shores, the convicts from the dungeons and gaols of France.

Private enterprise, unfolding the only just and secure basis of colonization of that region, by associating it with the fur trade, initiated the first successful effort. In 1600, Chauvin had obtained a comprehensive patent, which formed a monopoly of that trade. Repeated and prosperous voyages had been made, and settlements were about being formed, when the death of Chauvin dissolved the organization.

A body of merchants of Rouen, animated by this success, organized in the year 1603, a new company, with similar purposes, and arranged an expedition to be directed by the skill and science of Champlain. On returning from this voyage, he presented a most accurate and discriminating account of the geography and aspect of the country, and the manners and traits of the savage tribes.

A new patent, in the meanwhile, had been granted to the Calvanistic Protestant, De Monts. It conferred still broader expanse of sovereignty, extending from the fortieth to the forty-sixth degree of north latitude, and was clothed with greater privileges in the monopoly of the fur trade and with higher immunities of the soil and government. This charter guaranteed freedom of religious worship to the Huguenot emigrant.

Several years were exhausted in trafficing under this charter, with the aborigines; in wandering from one locality to another bteween the St. Lawrence and Cape Cod, and in forming temporary settlements, without effecting any permanent occupation of the country.

The first French settlement upon the American continent, was made in 1605 by these emigrants at Port Royal. The charter of De Monts was abrogated in the year 1608, upon the remon-

strances of the merchants interested in the preceding grants. In the same year, Champlain returned to New France, and in accordance with a purpose conceived in his preceding expedition, laid the foundation of Quebec—more ambitious of the honor of founding a great city, than covetous of the emoluments of trade.

Impelled by the ardor of his impetuous character and his impassioned zeal for discovery, Champlain the ensuing year embarked in an adventure conspicuous in that unscrupulous and daring age, for its reckless purpose and bold temerity. A band of some sixty Hurons and Algonquins had assembled at the rapids of the modern Chambly, with their flotilla of war canoes, and were preparing for a hostile expedition against a remote tribe of the "Iroquois".

Champlain, attended only by two Europeans, at once became the ally and companion of these savages. Allured by the spirit of adventure, and grasping at the glory which fascinated that age, he boldly and without hesitation or remorse encountered the dangers and privations of a vast and savage wilderness, never before pressed by the foot of civilized man, to assail a people of whose character and rights he was alike ignorant and careless.

The programme of the route to be pursued by the expedition, as indicated by the Indians, is signalized by a remarkable minuteness and accuracy in their knowledge of the topography of the country. Traversing the lake, which commemorates his name, they informed him that in pursuit of the enemy they sought, who occupied a country thickly inhabited, they "must pass by a water-fall and thence enter another lake three or four leagues in length, and having arrived at its head, there were four leagues of land to be travelled to pass to a river which flows towards the coast of the Almochoiquois." A precise and exceedingly accurate delineation of the route (although somewhat inaccurate in the estimate of distances,) from Lake Champlain by Ticonderoga and Lake George to the Hudson. The journal of Champlain* is of deep interest, not merely because it affords the first revelation of

* Copious compilations from the works of Champlain have already been published in the Transactions of 1843, and are therefore necessarily omitted, although peculiarly appropriate to this work.

a rich and beautiful region to civilized society, but because it presented a truthful exhibition of the Indian habits and pursuits and their arts and tactics in war.

Upon entering the lake, Champlain was deeply impressed by the profusion and beauty of the Islands, the wild and majestic growth of the timber, and the abundance of game and fish. The rivers discharging into the lake he found "surrounded by fine trees similar to those we have in France, with a quantity of vines the handsomest I ever saw." "In the lake," he continues, "there is large abundance of fish of divers species." He adds the melancholy commentary to this attractive picture of a delightful region, "these parts though agreeable are not inhabited by the Indians on account of their wars."

He coursed the lake along the western shore and "saw on the east side very high mountains capped with snow." The Indians assured him that those parts were inhabited by the Iroquois and that they embraced beautiful valleys and fields fertile in corn, with an infinitude of other fruits."

He thus portrays the habits of his savage allies.—"on encamping for the night, forthwith some began to cut down timber; others to peel off the bark, to cover lodges to shelter them; others to barricade their lodges on the shore." He regarded their barricades as efficient protection, against the ordinary assaults of savage warfare. "They dispatched two or three canoes, after encampment, to reconnoitre," which, "if they made discovery of no one, retired," and no further vigilance was exerted during the night for their security.

Champlain earnestly remonstrated with them "on this bad habit of theirs," as a laxity in military science. On approaching, the territory of their enemies, they observed more caution and vigilance in their movements. They advanced silently, and with great care by night, and retired into the "picketted forts" by day and "reposed without fire or noise." The savages were deeply curious and importunate to discover the dreams of Champlain, that from them they might derive auguries relative to the issue of the expedition.

As they advanced softly and noiselessly they encountered "a war party of the Iroquois, about 10 o'clock at night, at the point of a cape that puts into the lake at the west side." I deeply regret, that I am unable to insert unabridged, the unique and graphic description* by Champlain of the incidents and conflict which ensued. They are pourtrayed in language, so simple, clear and descriptive, that we feel as if the eye rested upon the spectacle. We almost contemplate the cool and chivalric postponement of the battle, by mutual consent to day-light; the night spent in the war songs and chaunts of triumph and defiance; the skill and cunning of the Hurons, in disguising the presence of their potent allies; the marshaling of the hostile bands, the lofty forms of the Iroquois chiefs, decorated with their waving plumage and distinguished by their "arrow proof armor made of cotton thread and wood;" their astonishment, not unmingled with boldness at the sudden apparition of the Europeans; the intrepid Frenchman advancing, alone in front of the Hurons; the awe and consternation with which the Iroquois see the flash of the arquebus, hear the report, and behold their chieftains slain as if by the thunder bolt. The victory in such a conflict was necessarily with the allies of the white man.

Champlain places the site of this battle "in 43 degrees and some minutes," and evidently within the vicinity of Ticonderoga.†

It is a singular coincidence, and may it not be regarded as significant of the presence and retribution of an overruling Providence, that the first aboriginal blood, shed by the Christian invader, and shed ruthlessly and in wantonness was on the soil which in another age, was destined to witness the sanguinary though fruitless conflicts of the mightiest powers of Christendom for the possession of the same territory; that both moistened with their choicest blood, and which neither were permitted permanently to enjoy.

*Documentary History, vol. 3, page 7.

† I confidently assume this position, although a somewhat controverted point, from the distinct designation of the place upon Champlain's own map. I feel assured on the subject by several other considerations, which I deem conclusive. He probably saw the falls at Ticonderoga, in the pursuit which succeeded the victory.

Champlain looking forth from the field of battle, upon the placid water that laved the spot, and probably exulting in the pride of even such a victory, named the lake, Champlain. His countrymen in succeeding years would have substituted the name of "Mere des Iroquois," but the Anglo-saxon and posterity averted the wrong, (for the latter name was not known to the nomenclature of the Indian,) and the lake still perpetuates the memory of its discoverer. Champlain entered upon the waters of the lake on the 4th of July 1609, and eleven years before the Mayflower sought the shores of New England. On the retreat of this expedition, Champlain was constrained to witness one of those appalling scenes incident to Indian warfare—the torture of a prisoner. This terrific spectacle occurred, it is supposed, within the present limits of Willsboro'. The sufferings of the victim, inflicted in all the intensity and refinement of savage barbarity, which he in vain attempted to avert, were, in mercy, closed by the arquebus of Champlain.

The subsequent career of this extraordinary man, was like the commencement, distinguished and brilliant. We may, with propriety, linger a few moments in glancing at his future history. Returning the third time to the New World he embarked again "to satisfy the desire I had," he writes "of learning something about that country," with his former allies and associates, in an incursion into the territories of the Iroquois. Exhibiting rare military science and genius in this ignoble warfare, amid the wilds of Western New-York, he was at length compelled to retreat sorely wounded and repulsed from an attack upon an Indian stockade. That winter the intrepid and untiring adventurer spent among the gloomy and comfortless wigwams of the Hurons, upon the sequestered shores of Lake Nipissing. Again restored to active life and civilization, he erects, in defiance of the grovelling cupidity of superiors, the magnificent castle of St. Louis. In 1615 still recuring to his Indian associates and accompanied by Monks of St. Francis, he penetrated far into the recesses of the western solitudes, and the first of civilized men, gazed upon the mighty waves, bounded only by the horizon, which he called "La mer douce," and which another generation, distinguished as Lake Huron. He gloriously defended Quebec, from an assault

of the English, almost without arms or provisions, by the glory of his name and the energy of his courage, and only capitulated his famishing garrison, when the last hope of relief had failed. Having suppressed the Indian excitements which had agitated his provinces, and amply asserted and perfected the dominion of his Sovereign over the empire he had founded, Champlain died in 1635 and is commemorated in the annals of the country he served, so ably and with such fidelity, as "the father of New France."

CHAPTER II.

TO THE OCCUPATION OF CROWN POINT BY FRANCE.

I am not aware that any evidence exists that the environs of Lake Champlain witnessed the missionary labors of the Jesuits; but we can with difficulty believe, that a region so near and accessible, would have been unexplored by the deep devotion and ardent enthusiasm, which impelled them to bear the cross and to find their neophytes upon the shores of Lake Superior.

The policy of Champlain, in forming an intimate alliance with the Algonquins, although successful in its immediate object, the cherishing the union and affections of the tribes of New France, in its results, excited the unyielding feuds and hostility of the formidable Mohawks, and entailed upon the French more than a century of fierce and bloody savage warfare.

The French government, while it maintained the sovereignty of New France, wielded a powerful influence over all the aboriginal tribes, within its vast limits. The preponderance of England, even in the councils of the Iroquois, was often disputed by France and rendered by her machinations, precarious and inefficient. The "chain of friendship," between France and the confederacies of the Hurons and Algonquins never was broken or became dim. The gay and joyous manners of the French won the heart of the savage. The solemn grandeur, and the imposing formulas and pomp of the Catholic rituals, attracted his wonder and admiration and fascinated his senses, if they did not subdue his feelings. His appetites were pampered and his wants supplied with a lavish prodigality, the result perhaps of

governmental policy rather than Christian charity. To the mind of the Indian, these traits of the French were favorably contrasted with the cold, stern and repulsive habits of the Englishman—with the unimposing forms of his religious rites, and with the close and parsimonious guard the British government held over its treasury and store houses.

The annals of the borders of Lake Champlain is a blood stained recital of mutual atrocities. The feuds of the cabinets of Europe and the malignant passions of European sovereigns, armed the colonies of England and the provinces of France, in conflicts where the ordinary ferocity of border warfare, was aggravated by the merciless atrocities of savage barbarism.

Each power vied with the other, in the consummation of its schemes of blood and rapine. Hostile savage tribes, panting for slaughter, were let loose along the whole frontier, upon feeble settlements, struggling amid the dense forest, with a rigorous climate and reluctant soil, for a precarious existence. Unprotected mothers, helpless infancy and decrepid age, were equally the victims of the torch, the tomahawk and scalping knife. Lake Champlain was the great pathway, equally accessible and useful to both parties, of these bloody and devastating forays. In the season of navigation, they glided over the placid waters of the Lake, with ease and celerity, in the bark canoes of the Indians. The ice of winter afforded them a broad crystal highway, with no obstruction of forest or mountains, of ravine or river. If deep and impassable snows rested upon its bosom, snow shoes were readily constructed, and secured and facilitated their march.

Although this system of reciprocal desolation, impeded the progress of civilization and repelled from the frontier, bordering upon the Lake, all agricultural and industrial occupations, both England and France asserted an exclusive right to the dominion of the territory. France based her claims of sovereignty upon the discovery of Arcadia, and the gulf and river St. Lawrence, and subsequently upon the discoveries of Champlain. Before that event we have seen, she had conveyed to De Monts a parchment title to the entire region extending to the meridian of

Philadelphia. The original charter of Virginia asserted the claim of England to the 45th parallel of latitude, while other grants extended her sovereignty to the waters of the St. Lawrence. The ultimate acquisition of the title of Holland, by the cession of New-Netherlands fortified these pretensions, which England alleged were matured by the recognition in the treaty of Utrecht, of her paramount sovereignty over the possessions of the Iroquois. Blood and treasures were profusely expended in the assertion of these hostile claims, founded on these ideal charters to a rude and howling wilderness.

A long series of ferocious but indecisive wars prevailed between the French and the Iroquois, signalized by mutual woes and cruelties and by alternations of victory and defeat. To avenge former sufferings as well as to arrest future incursions, the government of New France in 1665 determined to attempt the destruction of the fastnesses of the Mohawks. The annals of war exhibit scarcely a parallel to the daring intrepidity, the exposure and suffering of that expedition.

The point of contemplated attack was more than three hundred miles removed, and the season, the heart of mid-winter. That distance was to be traversed by five hundred men, upon snow shoes, over the icy surface of Champlain and across an untrodden wilderness. Each man, bore his own provisions and munitions. At night they had no covering but the clouds, or the boughs of the forest. At length bewildered amid pathless snows, paralyzed and exhausted by cold and hunger, they were preserved from destruction and restored to their country by the active but ill-requited beneficence of a remote settlement of the Dutch.

A treaty of professed peace, succeeded this event, but it seems to have formed no restraint upon the predatory spirit of either the Mohawks or the French. Two years had not elapsed when a second expedition, guided by the venerable De Tracy himself, the governor general of New France, had assembled at the Isle de Motte in Lake Champlain. Far more formidable than the preceding, it embraced 1,200 combatants, borne by a fleet of 300 bat-

teaux and canoes, and strengthened by two pieces of artillery, which they transported to the remotest hamlets of the Iroquois.

Intimidated by the power of this armament, the Mohawks abandoned their fortified villages, and "these barbarians were only seen on the mountains at a distance, uttering great cries and firing some random shots."* Having planted the cross, celebrated mass, and sung the "Te Deum" on the spot, "all that remained was to fire the palisades and cabins, and to destroy all the stores of Indian corn, beans, and other products of the country found there."* The retreat of the French, from this abortive attempt, was deeply calamitous. Forts were erected at Sorel and Chambly to protect the province from the incursions of the Iroquois by the lake.

The Mohawks, wily as powerful, were, by their habits and position, intangible; no blow could reach them. Suddenly bursting, in 1689, with great force into Canada, they beseiged and captured Montreal, and menaced the empire of New France with utter extinction. This movement averted a contemplated attack upon New-York by Frontenac through Lake Champlain, and of a fleet by sea.

In the ensuing winter an event occurred, pre-eminent even in the atrocities of that warfare, for its deliberate and ferocious cruelty.

The people of Schenectady, that village, whose Christian charity had saved the forces of De Courcelle from an appalling fate, reposed in a profound security. Although warned of impending danger, they had relied for protection upon the intense severity of the season, and an unprecedented depth of snow.

A band of French and Hurons, conducted by ruthless partizans, precipitating themselves in a march of twenty-two days along the Champlain valley, fell, in a winter's midnight upon this doomed and undefended hamlet. A common ruin involved the entire population. The blood of many mingled with the ashes of their dwellings. Others, half clad, fled to Albany amid the cold and snow, while others were borne into a hopeless captivity.

* French report.

After perpetrating this massacre, the French made a rapid and disastrous retreat, pursued by the rigors of a destroying climate, and the vengeance of an exasperated enemy.

Other sections of the English colonies were visited with similar and simultaneous assaults, tending only to aggravate national animosities, without either military or political results. These inflictions awakened the colonies to the perception, that safety and protection depended on concerted action, and that they were strong alone in harmonious union. From such convictions emanated the first idea of an American Congress.

That body, constituted of delegates from Massachusetts, Connecticut and New-York, assembled in 1690 at the city of New-York. It was then resolved to combine their efforts for the subjugation of Canada. Massachusetts redeemed her engagement, to equip a fleet and to assail the French possessions by sea. New-York and Connecticut assumed the responsibility of effecting a descent, by a land force, upon Montreal and the forts upon the Sorel.

An army was assembled at Lake George, and a flotilla of canoes, constructed for the purpose, wafted the army, powerful in numbers and appointments, down that lake to Ticonderoga. Transporting their armament to Champlain, they again embarked with high aspirations and in confidence of success. Some further progress was made, when suddenly a defective commissariat, with dissensions and divisions constrained a retreat, and with it blasted every scheme of the projected attacks.

The immense disbursements of the colonies in sustaining these extended efforts, exhausted their feeble resources, and left them almost powerless for the defence of their own frontier.

In this crisis, and during the year 1690, John Schyler, a name distinguished by a long line of patriots and soldiers, organized a volunteer band of about one hundred and twenty "Christians and Indians," on a predatory incursion, into the French province. Traversing Lake Champlain and the Sorel, in silence and caution, he landed without detection in the vicinity of Chambly. Secre-

ting their canoes and provisions, he penetrated, with singular temerity and no less singular success, to La Prairie, amid numerous forces of the French, and far within the line of their fortresses. The merciless storm fell upon an unsuspecting rural population, engaged and rejoicing in their harvest. In the fell spirit that characterized these scenes, none were exempted from slaughter or captivity. The "scalps of four women folks," were among their trophies. Dwellings, barns, products of the field, "and everything else which would take fire," were remorselessly consigned to the flames.*

The next year, Peter Schyler, a controling spirit in the colony and who swayed a potent influence over the rude affections of the Mohawks, collecting three hundred warriors of the tribe, daringly pursued the track of his brother, and asailed the same region. Intrepid and able, he conducted the expedition with success, defeating the French in battles, and inflicting on them severe calamities, and losses.

The scenes perpetrated at La Prairie, were fearfully retaliated and avenged in the rapine, captivity and massacre that devastated the English settlements, exposed to these barbarous incursions.

In the winter of 1704, amid the most intense frosts, and deepest snows known to a Canadian climate, a band of savages, and French partizans equally ferocious and vindictive, passing over the ice of Lake Champlain, and penetrating on snow shoes through the gorges of the Green Mountains, burst like a destroying tempest upon the valley of the Connecticut.

To general history, belongs the narrative of efforts for the "conquest of New-France," protracted for a period of two years from 1709, extending in their field of operations along the entire frontier from Detroit to the Bay of Fundy, and embracing armaments, both by land and sea. Policy, as well as the exasperated passions of the colonies, aroused all their enthusiasm, and enlisted in support of the project, every energy and resource. This zeal was neutralized, or defeated by the apathy, the imbecility or the negligence of the goverment of England. One provincial army, or-

*Schyler's Journal.

ganized by the colonies for the attack of Montreal, was wasted by disease, while awaiting assistance, which was never supplied; another was disbanded, when the inadequate naval attack of England had failed.

CHAPTER III.

TO THE CAMPAIGN OF DIESKAU.

The valley of Champlain, appears not to have been occupied, until about 1731, either by England or France, with any enduring or tangible possessions. France asserted no other, than an ideal and constructive title. The claim of England, had in the interval, been augmented by the cession of New-Netherland, which conveyed a tenure, uniformly assumed by Holland, to reach the St. Lawrence; and by the fealty of the Iroquois, which had submitted to the sovereignty of the British King, the entire environs of Champlain, and the recognition of that title by France, in the treaty of Utrecht.

Whilst neither power yielded its dominion to the other, each felt the extreme importance of securing the ascendancy upon Lake Champlain. The command of that avenue, shed over the colonies of the goverment that held it, a broad and ample protection.

As clearly as facts can be adduced from the faint glimmerings of history or tradition, it appears probable that, in the early period of the eighteenth century English occupation and improvement were gradually advancing along the valley of Champlain. Crown Point, then distinguished by its present name,* was recognised in 1690, as a commanding and important position. The Common Council of Albany, instructing their scouting party in that year, directs them to proceed "to Crown Point, where you shall remain and keep good watch by night and by day." This fact appears also from the language of the purchase, by Dellius, of a tract from the Mohawks, extending "more than twenty miles northward of Crown Point." His purchase was so exorbitant in its claims, and comprehended so vast an extent of territory, that the Colonial Legislature, without hesitation, abrogated

* Or its Dutch equivalent.

the grant, and thus exhibited an exercise over the region of one of the highest prerogatives of sovereignty.

The Crown Point of history is a beautiful peninsula, forming a section of the present township of that name, which is distinguished for its agricultural fertility, and the rare and exceeding loveliness of the landscapes its varied scenery affords. The peninsula is formed by Bulwagga Bay, a broad estuary on the west, and the lake upon the east, which, at that point, abruptly changes its course nearly at right angles, and is compressed from a wide expanse into a narrow channel. A vast wilderness, extended on either side of Lake Champlain, from the settlements on the Hudson to the Canadian hamlets, broken by rugged and impracticable mountains and ravines, and traversed by deep or rapid streams. No track penetrated it, except the path of the Indian. The lake, in its navigation, or by its ice, afforded the only avenue of mutual invasion. The most unpracticed eye, at once perceives that Canada could be the most efficiently shielded by the occupation of Crown Point, that position forming the portals of the lake. Impressed, no doubt, by these considerations, the French Vice-regal government, violating the sanctions of treaties, and the immunities of a profound peace, suddenly advanced through the lake, and seized by a military force, a promontory directly opposite Crown Point, and immediately after, that position itself.

The government of New-York, at that period fallen into nerveless and inefficient hands, or ignorant of this daring and impetuous act of French audacity, remained supine, while the formidable fortress of St. Frederic arose on the extremity of Crown Point, and secured to France the dominion of the lake.

The protection of Canada from the inroads of the Iroquois, was the ostensible reason and excuse of this measure, assigned by France. Its real purpose, besides embracing the control of the lake, contemplated a still deeper policy. Occupying a position at the threshold of the English possessions, they could menace and impede their progress, and at any moment direct against their expanded and defenceless settlements, sudden and destructive assaults. Crown Point was within the conceded possessions of

the Iroquois, and by the treaty of Utrecht, their territory was guaranteed to remain "inviolate by any occupation or encroachment of France." The Governor of New-York was at length aroused from his lethargy, by the indignant voice of Shirley of Massachusetts, to contemplate the arms of France and a formidable fortress, far within the limits of his asserted jurisdiction. Massachusetts, always prompt and energetic in sustaining the national glory, and in redressing the wrongs of the colonies, offered to New-York to unite at once with her in an expostulation on the subject, with the French functionaries, and in the ultimate necessity, to unite their arms to repel the aggression. The occupation of Crown Point was only a link in the system, by which France was encircling the colonies of England by a cordon of fortresses. The colonies invoked in vain the attention of the home government, to these encroachments. In vain were protestations and memorials laid at the foot of the throne, urging that the safety and the colonial existence of New England and New-York were endangered by the occupation of Crown Point.

The earnest and imploring voice of the colonies fell on cold and deafened ears. To the vision of the British ministry, America was a wilderness, destitute of present fruition and promises of the future. Walpole, whose sagacity seemed to endow him almost with prophetic prescience in the affairs of Europe, could detect no germ of future empire in the wilds of America.

Leading minds in the colonies were at that day suspicious that sinister and corrupt motives were influencing the British ministry, "who having reasons for keeping well with the court of France the project" (of occupying the Ohio) "was not only dropped, but the French were encouraged to build the fort of Crown Point upon the territory of New-York."* Such was the denunciation of Spotswood, of Virginia. England, by the ignoble treaty of Aix La Chapelle, relinquished to France the fortress of Louisburgh, subjugated by the treasures and blood of New England, but left to that power without a protest, the possession of Crown Point. It was not until 1755, that the British government, with emphasis and decision, demanded from France the demolition of

* Gov. Spotswood, of Virginia.

the fortress of St. Frederic. Diplomacy could not thus retrieve, after the occupation of a quarter of a century, territory lost by imbecility or corruption.

Accumulated acts of neglect and injustice of the mother country such as these, prepared and matured the colonies for independence. Had they been cherished by the guardian care of England, they might have rested upon her arm in effeminacy and dependence. Abandoned to the suggestions of their own policy, they were taught by these exigencies high and practical lessons of self-government. Compelled by a common danger, to mutual consultation and concerted action, they were admonished of the necessity and strength of a confederated union. Compelled to rely alone for protection and safety, upon their own arms and energies, they were prompt to resist aggression and to avenge injury. The deep fountains of their capacities were revealed to themselves, by the parsimonious policy of England, that constrained the colonies to resort to their domestic resources in their own protection and defence.

Had Canada been a British province, New England and New-York might have been exempt from the appalling scenes of carnage and suffering which are now impressed on their history; but the very exposures and dangers of their position, and the assaults and cruelties of a powerful and daring enemy, endowed them with lofty moral and physical courage; with endurance in suffering; with boldness and wisdom in council, and promptitude and decision in action. These are the elements of freedom.

Men, who literally tilled the earth with the musket at their sides, were ripening for any emergency and prepared to defend the heritage, endeared by their blood and sorrows, against every foe and any wrong. The career of the colonies, neglected, contemned and suffering, was to them a baptism of blood and sorrow, that consecrated a free and ennobled spirit equal to any sacrifice or any conflict. The wars into which the colonies were forced by this policy of England, and the proximity of the French provinces, afforded the severe schools for their military education. The shores of Lake Champlain formed the nursery of future heroes of

the Revolution. The military spirit was here enkindled, that in after years blazed at Bunker Hill, and Bennington and Saratoga; and here, amid victory and defeat, the science and tactics of Europe were inculcated and diffused throughout the broad colonies.

If Washington was taught on the banks of the Monongahela to lead armies and to achieve independence to his country, Putnam and Stark, Pomeroy and Prescott, amid the forests and morasses of Horicon and Champlain, and beneath the walls of Ticonderoga, were formed to guide and conquer in the battles of freedom. Human wisdom, in her philosophy, may pause to contemplate these striking and singular coincidences, and to trace these causes to their momentous results; but the eye of faith will reverence them as the hidden workings of an overruling and beneficent Providence, who in these events was unfolding the elements and forming the agents of a mighty revolution, destined not only to sever a kingdom, but to change the course of human events.

An ordinance of the King of France had authorized as early as 1676, the issuing of grants of lands situated in Canada. In accordance with this power and assuming the sovereignty of France over the valley of Lake Champlain, the government of Canada had caused a survey to be made of the lake and its contiguous territory, the year succeeding the erection of the works at Crown Point. Many of the names of the headlands, islands and other topographical features of the lake, which are still perpetuated, are derived from that survey. In their descriptive force and beauty, they almost rival the euphony and appropriateness of the Indian nomenclature. A map and chart based upon that survey, was published at Montreal in 1748, and has been scarcely surpassed by any subsequently made, in its scientific aspect or minuteness and accuracy. Extensive grants, under the ordinance of 1676, upon both sides of the lake, are delineated upon that map. A Seigniory was granted to the Sieur Robert, the royal storekeeper at Montreal, in June, 1737. This grant, which seems to have been the only one issued for land within the limits of the county of Essex, embraced "three leagues in front by two leagues in depth, on the west side of Lake Champlain, taking, in going down, one league below the River Boquet, and in going up, two

leagues and a half above said river."* These boundaries comprehend all of the present town of Essex and a large proportion of Willsboro'. The tract was soon after formally laid out and allotted by an official surveyor. We have no evidence that any permanent and actual occupation was formed under these grants. Kalm, who visited the region at an early period, asserts that few colonies, and these only in the vicinity of the fortresses, were formed by the French during their occupation.

The devastation in 1745, of the settlement of Saratoga, by an Indian and French force, armed and organized at Crown Point, and the deeper atrocities committed a few years later at Hoosick, by the same bands, while they increased the apprehensions of the colonies, excited to the highest intensity the desire and purpose of vengeance. This feeling could be best consummated in the destruction of St. Frederic. Whilst that fortress was occupied by a powerful and vigilant rival, the tenure of life and property in the adjacent English colonies, was esteemed so precarious and valueless, that the country north of the Mohawk, until the conquest of Amherst, was nearly depopulated.

The admonitions of the provincial governments, and the cry of alarm and agitation that arose from every section of the colonies, at length aroused the English ministry to the duty of their protection, and the assertion of the honor of Britain. Between France and England a peace, under the solemnities of treaty, still existed. Four distinct expeditions were organized, professedly to guard the colonial possessions of England, but prepared, at the propitious moment, to be hurled upon the stronghold of French power. In this combination, an army designed for the reduction of Crown Point, was assembled at Albany, and confided to the command of William Johnson. The zeal and solicitude of New-England, for the conquest of the fortresses upon Champlain, exasperated by the alarms and calamities of a quarter of a century, excited all the enthusiasm of her bold and energetic yeomanry. Every requisition of the government was met amply and with promptitude. Levies from New-York and New-England constituted all the forces demanded.

* Doc. History.

France was not insensible to the gathering storm, which began to lower around her American empire, and prepared to meet and avert it.

CHAPTER IV.

TO THE EXPEDITION OF ABECRROMBIE.

The bold and rocky cliffs of Ticonderoga, at the confluence of the outlet of Horicon with Lake Champlain, a position still more imposing than Crown Point, had attracted the military eye of the French engineers. The foundations of Fort Carillon had just been laid ;* a fortress and a site destined to a terrific pre-eminence in the future scenes of a sanguinary warfare.

Johnson, contemplating an attack upon Ticonderoga and Crown Point, advanced with his provincial army to Horicon† of the Indians, St. Sacrament of the French, and then first called Lake George, "not only in honor of his majesty, but to ascertain his undoubted dominion here."‡ His progress was arrested by startling and unexpected tidings.

Dieskau had suspended a projected assault upon Oswego, on hearing upon his march, of the approach of the American armament; and with the high and impulsive daring of his age and country, decided to anticipate and avert the menaced blow, by a bold and effectual attack.

Collecting a force of French and Indians at St. Frederic and Carillon, he promptly and secretly passed up Lake Champlain, intending to seize and destroy the depot of the English army at Fort Edward. Bewildered in the forests, or betrayed by his guides, instead of marching towards that point, he advanced in the direction of Lake George and the encampment of Johnson. These events, and others upon the same theatre, belonging to the annals of other counties, I may only glance at, to preserve unbroken the chain of occurrences. On the 8th of September, 1755,

* Carillon appears to bear the same signification, as the Indian name "Che-onderoga," the original of Ticonderoga, noise-chime, in allusion doubtless to the brawling wafers.

† Horicon, i. e. "The Silver Water." How beautiful and appropriate the application.

‡ Johnson letter.

an immature and ill-directed attack was precipitated upon the French, and a disastrous repulse ensued. Williams, a distinguished son of Massachusetts, and Hendrick, the venerable and heroic chieftain of the Mohawks, were slain. A second and a third conflict on the same day, and nearly upon the same ground, redeemed the disasters of the first. Dieskau wounded and a prisoner, with the loss to France of near a thousand men, were results as auspicious and glorious to Britain, as the defeat of Braddock, in July of the same year, had been calamitous and disgraceful.

The narrative of this victory will always warm the heart of the American historian with interest and exultation; for this was the first field in which provincialists of the colonies, led by their own citizens, met on equal terms, and vanquished the trained veterans of Europe.

Had Johnson known as well to use victory as his army to achieve it, the conquest of Carillon, scarcely commenced, and of St. Frederic, in a dilapidated condition, would have been the result and the reward of his triumph; but the occasion was lost, in the profitless waste of the season, in the erection upon Lake George, of Fort William Henry.

It was not until the summer succeeding these exciting events, that open and mutual declarations of War were proclaimed between France and England. The contest languished during the year 1756 upon the borders of Champlain. In that year, another force was organized for the attack of Crown Point. Again the colonies presented their required contingents, but delays, dissenions, the incapacity and indecision of the English commanders, again exhausted the season. Offensive operations, were limited to the bold and romantic exploits of the American rangers and the partizan corps of France.

In one of these fearless incursions, Rogers and Starks had penetrated with a force of less that eighty men, to a point between the French fortresses, near the mouth of a stream, since known as Putnam's creek, and there in ambush, awaited their victims. A party of French are passing in gay and joyous security, on the ice toward Ticonderoga. Part are taken, the rest escape and

alarm the garrison. The Rangers attempt to retreat, and pressing rapidly along the snow path, in Indian file, as was their custom, on ascending the crest of a hill, receive the fire of an overwhelming force, posted with every advantage to receive them.* A fierce and bloody conflict ensued, protracted from near meridian until evening. The Rangers retreating to a hill, are protected by the covert of the trees and there gallantly sustain the unequal conflict. Rogers, twice wounded yields the command of the little band to Starks, who with infinite skill and courage, guides the battle, repulses the foe, with a loss far exceeding his entire force, and at night conducts a successful retreat to Lake George. Leaving there his wounded and exhausted companions, Starks, accompanied by only two volunteers, traverses on snow shoes, a distance of forty miles, and returns to them, with aid and supplies the second morning. This courageous band reduced to forty eight effective men, with their prisoners returned to Fort William Henry in safety and triumph.† This incident brilliant as it appears, is rivaled, if not eclipsed by a chivalric and daring exploit of the French. A detachment of fifteen hundred French and Canadians, lead by Vaudreuil, traversed the ice and snows of Champlain and Lake George, a distance of more than one hundred miles, traveling upon snow shoes, "their provisions on sledges drawn by dogs, a bear skin for their couch" and "a simple veil" their only covering.‡ Their errand, the surprise and capture of William Henry. The garrison was wary and vigilant. The fort was defended with success, but the vessels and batteaux, with the store houses and huts of the Rangers were consumed.‡

A bold and secret attack by English boats upon the outworks and flotilla at Ticonderoga, was some months after, signally defeated with severe loss.

The Northern colonies, still eager for the expulsion of the French from their borders, acceded to the requisition of Loudon, and assumed to raise four thousand troops, for the campaign of 1757. These contingents, they supposed were designed for the reduction of Crown Point and Ticonderoga. Loudon

*This battle is supposed to have occurred near the residence of M. B. Townsend, in Crown Point. C. Fenton.

†Sparks Life of Starks. ‡ Bancroft

either from caprice or instability, suddenly announced the abandonment of that expedition, and his purpose of uniting his forces for the conquest of Louisburgh. This futile and impracticable scheme, left the frontier of the colonies, open and unprotected. The vigilant and sagacious enemy, from their watch towers, at Carrillon, saw the error and prepared promptly to seize the advantage.

Montcalm returning triumphant, from the conquest of Oswego, held a council at Montreal, of Indian tribes, gathered from Acadia to Lake Superior. He mingled in their dances and chanted their war songs, captivating their hearts by his largesses and kindness, and exciting their angry passions, by visions of revenge and plunder. These savage warriors embarked in two hundred canoes, bearing the distinctive pennons of the various nations; the priest accompanying their converts, and while the war chants strangely mingled with the hymn of the missionary, passed up Lake Champlain to unite at Ticonderoga, their rude forces, with the legions of Montcalm.

These had been rapidly assembled at Ticonderoga and Crown Point, and at the close of July, 1757, the French army proceeded to the assault of Fort William Henry. On the second of August Montcalm invested the devoted fortress. The feeble and inadequate garrison, after a heroic defence, protracted in the vain hope of succor, that cowardice and imbecility withheld, yielded to the French arms. Their capitulation guaranteed to them safety and protection, under every solemnity of civilized warfare. Fifteen hundred persons, embracing these gallant soldiers, their wives and children, were mercilessly slain, or carried into captivity by the savage allies of France, while numbers of Indians within the Fort were seized, and perished with barbarous and lingering tortures.* This ferocious massacre, so immediately succeeding a similar atrocity at Oswego, and his other sanctions of Indian barbarities, have cast a deep shade upon the fame of Montcalm, that his own denial, the apologies of his advocates, his subsequent glorious defence of Ticonderoga, and his still more glorious death

before Quebec, cannot redeem. The great purpose of this movement achieved, the French having demolished the fortification, bearing with them the artillery, military stores, and English flotilla, returned to their fortresses on Champlain. Grief, indignation and horror, at this event, pervaded and agitated Britain and the colonies.

The hour of the massacre at the "bloody pass" marks the culmination of French power upon the continent of America. No armament of France, after the conquest of William Henry, penetrated south of Ticonderoga, in the territory of New-York. Her subsequent history exhibits a dark series of disasters and declensions, illumined by occasional gleams of glory and triumph, until the American empire of France was totally extinguished by the treaty of 1762.

CHAPTER V.

THE CAMPAIGNS OF ABERCROMBIE AND AMHERST.

England and America were raised from their humiliation and despondency by the potent genius and splendid combinations of Pitt. His ardent appeals to the patriotism of the colonies, although enforced by no coercions of power, aroused and enlisted their whole energies in support of that gigantic scheme, which contemplated a simultaneous attack upon all the widely extended dominions of France. More than nine thousand provincial troops, responding with zeal and alacrity to the summons of Britain, assembled on Lake George in the early summer of 1758. These contingents, combined with seven thousand British veterans, formed the most brilliant and powerful army before marshalled upon the American continent, under the flag of England. The bosom of an American lake never bore a more gorgeous and imposing military spectacle, than was exhibited in the passage through Lake George, of Abercrombie's armament. A flotilla of nine hundred batteaux, and one hundred and thirty-five boats, with rafts armed with artillery, broke the deep silence and seclusion of this romantic lake, whose rugged banks were then unenlivened by the habitations of man. Amid the clangor of martial music, the glitter of burnished arms, the gleaming of bright

scarlet, mingled with the humbler green of the Rangers, with their banners floating in the breeze, the vast flotilla glided rapidly over the calm waters, bearing the proud host, exhilerated by the inspirations of heroism, and the confidence of victory.

The fearless Howe led the van of this magnificent array. The little cove, still known as Howe's Landing, indicates the point, where on the 6th of July, 1758, the army disembarked. That night, Howe reposing on his bearskin couch with Stark, discussed with an anxious and foreboding spirit, the hopes and fears of the morrow.* Equal in age, alike daring and intrepid; the one a descendant of royalty, and the other a humble pioneer of New Hampshire, there existed between them a kindred spirit, and high mutual esteem. The English army advanced from the landing, in four columns. That led by Howe, bewildered in the intricacies of the dense forest, encountered a fugitive battallion of the French, wandering in equal perplexity. The latter, composed of French and Indians, familiar with that warfare, promptly and vigorously assailed their enemy. The British regulars surprised and intimidated by the savage war-hoop, recoiled and faltered. The provincial Rangers of Stark and Rogers saved the day. In the death of Lord Howe, who fell at the first assault, the British army lost its vital principle, the controlling and guiding spirit of its success. Generous and gentle, bold and accomplished, instinct with genius and heroism, he died deeply lamented. Massachusetts conferred on him a monument in Westminister Abbey.

His body borne in state, even amid the excitement and disasters of defeat, was conveyed to Albany, and buried within the walls of a church, his vault marked by heraldic insignia, and his obsequies performed with every pomp of military display, and all the solemnities of religious rituals. Forty-four years had elapsed, and in the progress of improvement that edifice was demolished, and the grave of Howe exposed. The decayed coffin of rich mahogony was revealed, that contained the ashes of the gallant and noble dead, enshrouded in habiliments of gorgeous silk, the hair dressed in the fashion of the age, and still stiffened by its appliances; the ribbon that bound it yet black and glossy.

* Sparks' Life of Stark.

All, on exposure shrunk into dust, and the relics of the high bred and gifted noble were conveyed by vulgar hands to the common charnel house, and mingled with the promiscuous dead.*

The vascilation and delay of Abercrombie afforded to his alert and sagacious antagonist the opportunity of perfecting his defences. Trees were felled, with their limbs interlaced, or pointed and projecting outward, forming an abattis, impregnable to the assaults of infantry, and an outer protection to his ill-manned and imperfect works. A fresh impulse, suggested by a false and rash survey, induced the British commander to order an attack, without the presence of his powerful artillery. Against its fire the French lines would have afforded little protection. The gallant army advanced to the murderous assault, with the calmness and precision of a parade, and maintained for five hours a hopeless conflict, unsurpassed in the annals of warfare, for its military devotion and bloody sacrifices.

The Provincials émulated the veterans, many of whom were slaughtered in the trenches, and a few upon the very ramparts. Abercrombie, himself, in a place of security, did not withdraw his troops from this frightful havoc, until two thousand had been sacrificed. Although still quadruple, the force of the French, abundantly provided with all the means of a successful investment, alarmed, and with no self-reliance, he ingloriously retreated, and fled to the southern extremity of Lake George.

Montcalm, doubtless detecting the point, which in after years made the fortress vulnerable to Burgoyne, exclaimed in the pride and consciousness of genius, "had I to beseige Fort Carillon, I would only ask six mortars and two pieces of artillery.† While Abercrombie, paralysed by his defeat, remained idle, Montcalm poured a desultory warfare upon the English settlements.

The year 1759, developed still bolder and more decided schemes for the annihilation of French power in Canada. Amherst, the successor of Abercrombie, was designated to lead a new arma-

* Mrs. Cochrane. Original MSS of Elkanah Watson.

† Bancroft.

ment against the Fortresses upon lake Champlain, and after their conquest, penetrating into Canada, to unite his forces with Wolf, beneath the walls of Quebec. The subjugation of New France, had become, in England, the cherished purpose of public policy, and the fervid aspiration of national sentiment. The colonies, with hopes so often disappointed, despondent of success, bleeding and impoverished, did not exhibit their usual zeal and promptitude, in meeting the requisitions of Britain.* Six thousand provincials, with an equal number of regulars, assembled in the last days of June, at Lake George. On the 26th of July, Amherst, with his force, invested Ticonderoga. Montcalm, alarmed at the impending descent of Wolf upon Quebec, and with no adequate supplies or aid from Europe, had already withdrawn the strength of his army from the fortress of Champlain, and had hastened himself to the defence of the citadel of New France. Boulamarque, on the fourth day of the investment, abandoned and dismantled Ticonderoga, and securing his munitions, had conducted the garrison to Crown Point. Amherst immediately occupied the evacuated works.

This conquest, the desire and labor of so many years, was at length achieved, almost without bloodshed. Townsend, the counterpart of Howe, young, brave and noble, full of hope and promise, was almost the only sacrifice. Two weeks were spent in the guarded and anxious scrutiny of his spies and savages, before Amherst was assured that Crown Point also had been abandoned. Exact, cautious and fettered, by the prescribed formula of military progress, he lingered three momentous months, in perfecting an ascendancy upon the lake, that genius and enterprise would have grasped. In the interval of this delay, Amherst had caused a small flotilla to be constructed at Ticonderoga. Escorted by this fleet, he embarked his army on the 11th day of October, a month after the conquest of Quebec, with the design of advancing into Canada. Arrested by an autumnal tempest, which often sweeps the lake at that advanced season, he was constrained to lead back his forces to Crown Point and Ticonderoga. The naval armament continued its advance, pursued and attacked the French fleet. This first conflict, upon the waters of Champlain, occur-

* Graham and Smollet.

red almost upon the theatre in another century, of Madonough's illustrious victory.

The works at Ticonderoga were enlarged and improved, and a new fortress, with an exorbitant expenditure of ten millions of dollars, erected at Crown Point, near the site of Fort St. Frederic. Each of these works, was constructed on a scale of vast and imposing magnificence. The fort and field works at Ticonderoga, spread over an area of several miles, and combined all the elements of strength that science and labor could accomplish. The new fort at Crown Point, its trenches cut through the massive rock, and its ramparts elevated twenty-five feet in height, embraced seven acres within its walls.

The remains of these fortresses, now crumbling ruins, still prove their former splendor and strength. They are now guarded and preserved by private taste and intelligence, from the vandal outrages which were rapidly destroying them. We may cherish the hope, that the most extensive and imposing ruins in America, redolent with the brightest historical associations, and becoming shrouded in the venerableness of antiquity, will be perpetuated to excite the admiration and to attract the pilgrimage of future ages. These fields of glory are now tilled in the peaceful pursuits of husbandry. In the vicinity of Ticonderoga, balls, muskets, swords, and numerous other relics of war, are constantly revealed. At one period, the line of the fatal abattis, might almost be traced by these dumb but significant memorials of the spot, where the harvest of death had been the most exuberant.

The course of the circumvallations and trenches, singularly complex and interlaced, may readily be distinguished. Part of the battlements rising above the rocky cliff are almost entire. The line of the ramparts is still traced; the ruins of a portion of the barracks remain, although private cupidity has removed much of the brick and stone of the buildings. The bakery is in a state of good preservation. At Crown Point the ruin is still better preserved, although here the deep interest that entrances at Ticonderoga, is less profound and exciting. The mounds of Fort St. Frederic are yet perceptible, although fallen and dilapidated. The oven, the covered way, and magazine, are easily distinguished. The fort

erected by Amherst, might even now be restored. The form of the vast quadrangular barracks, which enclosed the esplanade, may still be distinguished; one side has been totally demolished, and another partially removed. They formed, until the desecration was arrested by the present proprietors, quarries that supplied building material to a wide region. Two of these barracks remain in partial preservation, one 192 feet and the other 216 feet in length. The walls yet stand, and although roofless, without floors, and the beams charred and blackened, they are in more perfect condition than any other part of either ruin. The inner walls bear the soldiers' idle scribblings of almost a century ago; each room contains a broad and lofty fireplace. The garrison well, almost one hundred feet deep, remains. The direction of the covered way, conducting to the lake, although occasionally fallen in, may readily be discerned.

How changed the scenes, since the chivalry of France and England, and the savage warriors from Acadia to the precincts of Hudson's Bay, were marshalled on these shores. Last autumn, standing on a lofty eminence on the southern limits of Essex county, I gazed far along the bold banks and tranquil bosom of Lake George. The view was as lovely as in the age of Montcalm and Howe, but not a sound broke the deep stillness of nature, not a form interrupted its solitude. When I stood amid the ruins of Crown Point, cattle were ruminating in its bastion, and a solitary robin twittered among the branches of a tree, whose roots were interlaced among the rocks of the ramparts. I saw sheep feeding upon the walls of Fort Carillon, and plucked wild grapes from a vine clustering upon the ruins of its magazine.

The English fort at Crown Point was esteemed impregnable to any ordinary attack The deep ditch, and high walls of ponderous masonry, which surmounted it, and the solid work of its foundations, guarded it alike from assault or gradual approaches. Formidable as it then appeared, it is believed that it would be untenable against the heavier ordinance and increased power of the projectiles of modern science.

This campaign of Amherst was marked by only two other events, but of widely different aspects. The one was the construction of

a military road from the Connecticut river to the fortresses upon Lake Champlain—a measure suggested by wise and beneficent policy. The other incident, was the total destruction, by a detachment of Rangers, under Rogers, of the village of the St. Francis Indians, with fire and the sword.

While Amherst thus procrastinated, the last convulsive although nearly successful struggle for dominion had been made by the French, in the attempted recapture of Quebec. After this failure, the scattered fragments of the French power were concentrated at Montreal. Haviland conducted an army from Crown Point, for its attack, and united with Amherst and Murray on the shores of the St. Lawrence. On the 8th September, 1760, Vaudreuil capitulated, and yielded to England the sceptre of New France.

CHAPTER VI.

THE COLONIZATION.

The inference derived from the subsequent aspect of the country, and the silence of documents and history on the subject is strong if not conclusive that the actual occupation of the Champlain valley by the French, for practical and agricultural purposes, although they maintained their military ascendancy for more than a fourth of a century, did not extend far beyond the protection of their fortresses.

The extent and character of these early settlements is a question of strong interest, as well in the illustration it affords of the history of the region, as in the antiquarian researches it demands. Whatever may have been the number or situation of the French occupants, they appear to have receded before the approach of the victorious arms of Amherst, and probably accompanied the retreat of the French forces. The most decisive evidence remains of the presence at some former period of a large and civilized community in the vicinity of Crown Point. The vestiges of their occupation which still exist, indicate a people who knew the comforts and amenities of life, and possessed numbers and means to secure their enjoyment. I do not hesitate to refer

their existence to the epoch of the French ascendancy, if not to a still more remote period. The allusions of ancient MSS corroborate the traditions preserved in the reminiscences of aged persons, that a population, ranging in the estimate from fifteen hundred to three thousand persons, were gathered around the fortress of St. Frederic. A very important trafic it is known existed between the French and English possessions as early as 1700, and that Lake Champlain was the medium of the intercourse. Several years anterior to that period, Crown Point, it will be recollected, was referred to, as a prominent land mark in the public instructions of the municipal authorities of Albany. May it not have been, previous to the French occupation, an important mart of this commerce? We confidently assume the conclusion, that Crown Point, at an early period, was a conspicuous and flourishing trading post, where the commodities of France and England were interchanged, and where the Indians congregated from widely expanded hunting grounds, to trafic their peltries.

We have already briefly sketched the peninsular position of Crown Point—one side resting on Bulwagga bay, and the other washed by the waters of the lake. The clearest evidences remain, of the ground, for many rods along the margin of the bay, having been graded and formed into an artificial slope, inclining to the water. Ruins of enclosures are still visible. The fragments of a former wall, in one instance, distinctly mark its course. Trees which have sprung up, along the line of the wall, have supported and preserved spaces of it almost entire. This enclosure, embracing an area of about two acres, was evidently a fruit yard or garden. Fruit trees were flourishing in it within the recollection of the present owner.

An avenue seems to have swept in a wide curvature along the margin of the lake, in front of the enclosures, and approached a landing place, adapted to the craft which at that time navigated its waters. Still more distinct and palpable indications, are exhibited parallel to this avenue, upon the crest of a slight eminence, of the former residence of a dense and prosperous population. A street may be traced, reaching a long distance towards

the main land, raised and covered with broken stone not unlike the McAdam roads of the present day. The ruins of cellars, many of which are excavated from the solid rock, line this street on each side. The compact arrangement of these cellars and the narrowness of the avenue, present a striking analogy to the antiquated villages in Canada, founded by the French, and leave little doubt that their origin was the same.

No vestige of this by-gone age, so thrilled upon my feelings and excited my imagination, as the remnant of the sidewalk along this street. It is formed of flagging similar to that now in use in our cities. The stones are smooth and worn, and remain in the position they were left by the generation who once thronged them in the busy scenes of life. We were assured by the occupant of the ground, that he has displaced many continuous rods of this pavement, in the course of his agricultural operations, which were in perfect preservation.

To tread upon the pathway of a people whose name and lineage is forgotten, whose history is extinct, and whose very era is obscured, impresses the mind with a deeply saddening and solemnizing influence. These and equally marked indications, extend over a wide space about the fort and along the shores of the lake. Impressive evidences exist, near the residence of Col. Tremble, of former extensive habitations. Two large cemeteries, one near the garrison grounds and the other upon the last locality, attest that the living, in numerous assemblies, once animated these scenes.

The worthy occupant of the former, remarked, without seeming conscious that he was yielding to the dictate of a refined sentiment, that he had felt constrained in particular spots to arrest the plow, because it so fearfully exposed the relics of the dead.

Still another touching evidence remains that man, in an advanced stage of society, has left his foot-prints on these scenes, to indicate his former presence. Asparagus, other hardy plants and shrubs, usually cherished by the hand of human culture, still flourish, wild and uncared for, upon these fields. The settlers, who occupied the territory after the revolution, found, in

an area of about four miles from the fort, not a tree or a bush to obstruct the view over the beautiful and wide champaign, that had been once highly cultivated. Now a heavy forest covers half the tract. Rogers, in describing one of his predatory excursions, speaks of luxuriant crops waving upon these fields, and on another occasion, he alludes to his firing, in a sudden foray, the village itself. Kalm, the Swedish traveller, saw about the fort in 1749, "a considerable settlement," and "pleasant cultivated gardens," and "a neat little church within the ramparts." Persons recently deceased, whose recollection extended to a period beyond the revolution, recalled Crown Point when its business operations were conducted in several stores. A circumstance occurring at a later period, which we shall introduce, with its evidences, in a subsequent part of this narrative, that seems to have contemplated Crown Point as the capital of a projected province, is strongly suggestive of its central position and political importance. A solitary farm house, now occupies the peninsula of Crown Point. I have been allured by the pathos and romance of a subject that I believe has no parallel in this country, to yield an unusual space to its consideration.

Although Canada continued in the military occupation of the armies of England, the clouds and uncertainties, which shrouded her future policy in reference to the permanent acquisition of the country, retarded the settlement of the environs of Lake Champlain by American emigrants. The officers and soldiers, of both the regular and provincial line, in their repeated campaigns, had become familiar with the region, and appreciated its beauty and fertility. The teeming west was still the domain of the savage. These impediments to colonization were dispelled, when, by the treaty of 1762, Canada, Acadia and Cape Breton, were ceded to England.

A proclamation made, Oct. 7th, 1763, by the King of Great Britain, authorized the colonial governors to issue grants of land on either side of Lake Champlain. The reduced officers and men, who had served in the Canadian campaigns, were especially to be regarded in the issuing of these grants. The holders were empowered, by the terms of their grants, to make locations upon any

unappropriated lands. This revolution in the attitude of the country, communicated a new impulse to its affairs, and opened its portals widely to emigration. The decade, succeeding the year 1765, exhibited vast progress in its improvement and cultivation. Numerous patents were granted, and locations under them, came frequently into collision with grants issued during the French intrusion. Stimulated by the value of the lands, immensely enhanced by these events, many grants, utterly fictitious, were asserted, and others revived that had been abrogated by the French government, or forfeited by a failure in the performance of their conditions. Others derived from France, were preserved by actual tenure, and had been recognized by the government of Great Britain. Many of these classes, were also violated by location of grants, issued in pursuance of the ordinance of 1763. No grants, in addition to those already mentioned, appear to have been issued by the French authorities, to any portion of Essex county, except one of Nov. 15, 1758, which comprehended a large part of the territory, which now constitutes the towns of Crown Point and Ticonderoga. The adjustment of the conflicting rights of the patentees, under these adverse grants of the French and English authorities, was extremely difficult and embarrassing. A proper sense of justice, induced a suspension by the government in 1768, in the issuing of all patents of lands northward of Crown Point, which were claimed under any French grants.

These colisions again threw a cloud over the progress and prosperity of the country. Many of the French claims were ultimately repudiated by England, on account of forfeitures through the neglect of the conditions upon which they were dependant; others were compromised by grants, to the claimants of land in Canada of an equivalent value. England exhibited towards the claimants of these seigniories, great tenderness and liberality, in not assuming the obvious position, that the French held the shores of Lake Champlain alone by an usurped occupation, which could neither create nor convey any rights. These questions agitated and disturbed the colonies for several years, and led in the home government to anxious and protracted discussions

The multiplicity and extent of the grants, issued under the ordinance of 1763, the existence of these conflicting claims, and

the repugnance of many of the patentees to the occupation themselves of their land, combined to depress their value and throw them into market.

William Gilliland, a native of Ireland, was at that period, a merchant, residing in the city of New-York.* Endowed with great force of character and enterprise, and possessing expanded and sagacious views, he became conspicuous in the early settlement of Clinton and Essex counties, and held, for many years, a controlling ascendancy in the affairs of that region. Patents of rich and extensive Manors, had been, anterior to this time, granted in the southern sections of the province. Actuated by the desire of forming to himself a similar estate, the mind of Mr. Gilliland was attracted to the valley of Champlain, then surrounded by the circumstances to which allusion has been made. He employed, with this view, competent agents to explore the west shores of the lake. The larger proportion of the territory upon the eastern side, had already been granted and appropriated. He decided upon the result of this survey, to locate his proposed domain near the Boquet river, expanding southerly along the borders of the lake towards Splitrock.

The remarkable beauty and fertility of the tract still vindicate the wisdom and tact of his selection. His first location was a section of two thousand acres, under a grant to Joseph Field. This was situated immediately south of the Boquet,† and is now designated as Field's Patent. Mr. Gilliland subsequently purchased seven additional claims, which embraced in the aggregate more

* I am greatly indebted to Oscar F. Sheldon, Esq., of Willsboro, for much valuable information, relative to the early American settlement of this county. He has been engaged for fifteen years, with great zeal and intelligence, in collecting and arranging materials for its history. His efforts have preserved a knowledge of many important facts and incidents, which otherwise would have been irretrievably lost. With great courtesy and liberality, he submitted to my use, the very voluminous MSS. he had arranged, and the narrative already commenced. To this source, I refer for most of my authorities. I have also been permitted, by the courtesy of the Messrs. Gilliland of Plattsburgh, to inspect and use the original journal of William Gilliland, their ancestor. This highly interesting and valuable document, was begun May 10th, 1765, the day his first colony left New-York, and is continued with considerable regularity for the two succeeding years, with occasional entries, until 1783. This journal is replete with interest and invaluable information; I have derived from it, most of the prominent facts relative to the settlement of the county presented in my report.

† The origin of the name of this river is uncertain. Tradition says it was thus named by Mr. Gilliland, from the profusion of flowers on its banks. It is also supposed to have been derived from Gen. Boquet, an English officer of considerable distinction.

than fifteen thousand acres of land. The territory he comprehended and located under these grants, commencing a half mile south of the river, extended to Judd's patent, which seems to have been previously surveyed, near Splitrock, presenting on the shore of the lake a line of about six miles, and spreading three or four miles into the interior. The purchase of these rights was effected in 1764, and the grants issued and the land surveyed the ensuing year. Impressed by the natural predilections of an European to manorial institutions, his policy seems to have designed the creation of an estate in fee, in himself, with subordinate estates to a tenantry held at annual leases. The consummation of a scheme of this character, applied to a wild and uncultivated region, demanded an exercise of extreme skill and sagacity. The inducements presented by Gilliland, to emigration, were conceived in the most liberal and enlarged spirit. His arrangements for organizing the proposed colony manifested every regard for its comfort and success. He seems to have secured a body of intelligent and industrious emigrants, formed principally of mechanics and laborers, and adapted to endure the toil and privation of a pioneer life. Amply provided with implements, tools, provisions, and all other requisites, he left New-York with his colony on the 10th of May, 1765, and occupied ten days in the voyage from that city to Albany.* Deciding at this place, to convey a part of the emigrants and the material by water, to Fort Edward, he was compelled to purchase batteaux at Schenectady, and to transport them over land to Albany. In the laborious toil of eight days, contending with the strong current and dangerous rapids of the Hudson, he reached Fort Edward in safety. A part of the train had proceeded by land, driving with them a herd of forty-one head of neat cattle, destined for the future use of the colony. The oxen were employed in the transportation of the boats and effects to Lake George. Three days were exhausted in this operation, when the little fleet was again launched, and wafted by sails to Ticonderoga. Two days more of transportation by land, brought

* I have before me an original letter, which exemplifies the delay and tedium of this intercourse at a still later period. It is dated "Coxsackie 24 miles from Albany fryday 26th Oct 1792." It says, "The first day, all day on the Overslaugh, with a fine N. W. wind, 2d day a light breeze for a few hours in our favor—then Southerly wind all last night & to day strong gale at S E. We have just come in to the harbour, from whence I write to tell you, that you must strike out these 3 days as nothing in the time allotted to my abscence."

them to the waters of Lake Champlain. One batteau was freighted with lumber at Ticonderoga, supplied by saw mills which were erected during the French occupation. Again embarking, they arrived on the shores of the Boquet on the 8th day of June, having occupied in their journey thirty days of arduous and incessant labor.

After the interval of two days, devoted to rest and preliminary arrangement, they proceeded up the river to the point of their ultimate destination, and formed their encampment upon an island at the base of the falls, which, from that circumstance, still bears the name of "Camp Island." With promptness and energy operations were at once commenced. A road was opened to the falls, and by the 15th of that month ground had been cleared, timber prepared, and a house, 44 feet by 22, partly erected. This edifice was probably the first dwelling built by civilized man, on the western shore of Champlain, between Crown Point and Canada. The cattle had been driven to Crown Point, and there made to swim the narrow passage. Proceeding to a point opposite to Splitrock, they were ferried over, and from thence driven through the woods to Gilliland's settlement. A part of them were confined and fed upon the leaves of the trees, but the largest portion were turned loose to the unlimited range of the forest.*

The first great necessity secured, by the erection of a dwelling, the colonists prepared for general improvement. The forest was opened, the vicinity explored, timber prepared for a saw mill, which was erected in the autumn, at the lower part of the falls, and supplied with power by a wing dam, which was projected into the current, turning the water into a flume that conducted it to the mill.

Game was abundant in the woods; the most delicious salmon thronged the stream, that almost laved their threshold, and the beaver meadows yielded them sufficient hay for the approaching winter. The spontaneous products of a bounteous land were thus within the reach of their industry and energies. Meanwhile, as these efforts were in progress, Mr. Gilliland had visited Quebec,

* Gilliland's Journal.

and returned ladened with all other appliances to secure the comfort and safety of his people. "During his absence he had examined the region with a vigilant eye, upon both shores of the lake; had ascended the navigable streams, sounded their depths, and explored their banks. Twelve grants had now been located by Mr. Gilliland. Eight of these were situated within the present town of Willsboro; two at Westport, and two at Salmon River, now in Clinton county. A tier of lots, intended for farms, was surveyed and numbered in this year (1765), ranging along the shore of the lake, from the mouth of the Boquet to Judd's patent. Many of these lots were immediately selected by the settlers, but on account of the advanced season were not occupied until the succeeding spring."* The settlement upon the Boquet was named "Milltown." Mr. Gilliland, in November, left it, with his other interests upon Lake Champlain, in charge of a kinsman, whom he dignified with the European title of "steward." He passed the winter himself in New-York, engaged in preparations for the removal of his family to his new estate. The cattle which had been turned out upon their arrival, were recovered with great difficulty in the autumn, and in a condition almost as wild as the native denizens of the forests. The first winter of these pioneers in the wilds of New-York, was passed without suffering or remarkable incident. Their time was occupied in attending the cattle, cutting and drawing saw-logs to the mill, and in the preparation of timber for the construction of their buildings. "In January, 1766, their hay was drawn upon the ice, from a beaver meadow, two miles south-west from Split Rock, (now Whallon's bay,) to Milltown. In the February of that year, a purpose was formed by a part of the colony to abandon the settlement. Two men seized a team, and attempted, with their families, to escape into Canada. Through the vigilance of the steward, they were pursued by a guard from Crown Point, and brought back."† At the approach of spring, all the efforts of the settlers were enlisted in constructing their dwellings, and making other improvements upon their newly acquired

* O. F. Sheldon, and the Gilliland papers.

† O. F. Sheldon, MSS.

farms. The first house upon these lots is supposed to have been erected for Robert McAuley, April 14th, 1766, on the north bank of Bachelor's creek. Others rapidly succeeded, until the whole space between the Boquet and Split Rock was studded by the neat cabins of the settlers. During the spring, the provisions of the colony began to fail, but their wants were promptly supplied from the stores of the garrison at Crown Point.

In June Mr. Gilliland returned with his family, and bearing supplies for another year. "His journey had been difficult and disastrous. In passing the rapids of the Hudson, near Stillwater, one of the batteaux had capsized, precipitating part of his family into the rushing torrent. One of his daughters was lost. They resumed their voyage in fearful forebodings, sometimes drawing their boats on land, and again launching them upon the water. Worn with grief and toil, they arrived at length at Milltown, and were soon settled in their wilderness home on the banks of the Boquet."*

By a royal ordinance of October 7th, 1763, the parallel of 45 deg. north latitude had been established as the boundary between New-York and the province of Quebec. This ideal line, was, however, indefinite and controverted. In September, 1767, Gov. Moore, of New-York, and Carlton, of Quebec, caused the line to be fixed by careful astronomical observations. The same observations established the latitude of Crown Point at 44 deg. 1 min. 20. sec.

On this occasion the munificent hospitalities of Milltown, were extended to the royal commissioners, and their suite.†

The return of the proprietor had infused a fresh spirit, and imparted a new and vigorous impulse, to the little commonwealth. The colony continued to advance in improvement and prosperity. The saw mill was in successful operation, supplying all the de-

* O. F. Sheldon.

†The Journal of Mr. Gilliland, under date of September, 10th, 1766, has this characteristic entry, "proceeded to the Congress for settling the latitude at Windmill point, having brought three shoats, some salmon and a fat calf, for the Governor, who thankfully received them, being almost out of fresh provision."

mand for lumber. A smithery had been erected. Various seed had been sown, to supply culinary vegetables. The goverment, political as well as moral, of the community, was in the exclusive guidance aud control of the proprietor. Its administration, seems to have been eminently patriarchical. The appointment of justice of the peace, which had been conferred on Mr. Gilliland, in his primitive jurisdiction, endowed him with a plentitude of powers, that essentially embraced all the functions of counsellor, judge and chancellor. The ample limits of Albany county, at that period, embraced the whole region of northern New-York.

A tract of two thousand acres, lying north of the Boquet, which had been patented to James Ross, was occupied in 1766, by two persons named Wilson and Goodrich. They established an agency, which they called Burton at Flat Rock Bay. The attempt was abandoned in February ensuing, and no further occupation, north of the Boquet in Willsboro, occurred prior to the year 1790, except one slight improvement, near the stream. Two other patents were granted at this time. One of which, issued to John Montresor, was located north of Ross, and the other laid west of Field and Ross, to Richard Benson and others who were soldiers in the war with France. These locations still remain, and are designated by the names of the original patentees. The patents to Montresor and Benson, were occupied only by "Squatters," until 1819. In that year they were purchased by Seth Hunt of Keene, New-Hampshire. The validity of the original patents, and his title under them was soon after established, and his rights judicially enforced. Many individuals, who were innocent purchasers under the spurious titles to these patents, were severe sufferers, in the issue of the controversies excited by the conflicting claims.

During the winter 1767, Gilliland made an accurate and minute survey upon the ice, of the lake shore, along the entire front of his locations, and named the prominent topographical features. In the same season the first horse introduced into the settlement, was brought out upon the ice, for Mr. Gilliland, from Canada.

William McAuley, a relative and one of the prominent and most efficient coadjutors of Gilliland, occupied as a farm, the site

of the present beautiful village of Essex. James Gilliland, a brother of the proprietor, and in after years a distinguished officer in the American army, settled on a lot on the north bank of the Boquet. This stream, at the time of Gilliland's colonization of its shores, and for a subsequent period of several years, was a conspicuous landmark in the country.

The site and the water power of the village of Port Henry, was granted in 1766, to Benjamin Porter, a miller. It is supposed a milling establishment was erected by him and abandoned or destroyed before or during the Revolution. When tranquility was restored after that event, he returned to the scene, and in connection with a Robert Lewis, of Albany, rebuilt the mills. The ruins of these structures existed until a recent date.*

CHAPTER VII.

TO THE REVOLUTION.

No prominent event, distinguished the annals of these settlements for several years. Their agricultural and industrial improvement continued to advance, the colony gradually increased in population, flourishing mills were erected, and other conveniences and refinements of civilized life were introduced. Schools were early established. The position of the first school house is still pointed out. Occasional religious services were enjoyed. I cannot ascertain the existence, in the early epoch of the settlement, of the stated administration of religious ordinances, although a clergyman named George Henry, accompanied Mr. Gilliland with the first body of emigrants.

Albany county was divided in 1772, and the northern section, embracing both sides of Lake Champlain, was organized into a new county, which received the name of Charlotte.

* Most of the facts and incidents in the colonization of this region, for which I am indebted to Mr. Sheldon, whose ancestors were among the earliest emigrants after the Revolution, were derived from them, Mr. Gilliland, the son of the proprietor, and other aged settlers. Many of these facts I have corroborated myself, from equally reliable sources.

An event occurred in 1775, which forcibly illustrates the tendency at that time, of public sentiment to democratic institutions, and exhibits its bias towards the doctrines of self-government. This settlement, it has been stated, was in the ideal limits of Charlotte county, but it possessed no tangible and practical political or social organization. It was too remote to be reached by the protecting arm of government, and too unimportant to receive any specific legislative action. The presence and ascendancy of some civil or political power were demanded, in the changed condition and increased population of the colony, by their common interests, and for their mutual protection and safety. Under these circumstances they convened on the 17th of March, 1775,* by common approbation, an assembly of the colonists, and constituted themselves in effect, into a pure democracy. At this popular convention it was determined to institute for many practical purposes, a local government. A system of police and social regulations were matured, formally adopted, and ratified by the individual signatures of the citizens. It was made imperative upon all, and each was pledged to abide by its provisions "by every tie of honor and honesty."† In contemplating this singular and most interesting incident, the mind instinctively reverts to the cabin of the May Flower, where a similar scene was enacted, under the guidance of the same spirit and resting upon the same eternal principles. The officers of the association thus constituted, comprised a moderator, two superintendents of roads and bridges, three appraisers of damages, and a town clerk. William Gilliland was elected the first moderator, and Jotham Gardner the town clerk. The first act of this primitive organization, was an ordinance, authorizing the construction of a bridge, by a tax to be levied and paid in labor, assessed on the basis of property.

A project is believed to have been agitated at this period,

* They were chiefly Irish, and St. Patrick's festival was no doubt designedly adopted for the occasion.

† This compact, which was renewed the next year, was made "binding for the space of twelve months" from the date, "and also to be equally binding upon such other persons as may become inhabitants of this settlement during the said term." Although this organization assumed no political authority, it clearly cherished the embryo of such a power as inherent in the people.

which in its success would have formed a prominent feature in the annals of this colony, and been an event of grave interest and importance in the political history of the country. A scheme, in which Gilliland and the elder Skeene, of a family which attained subsequent revolutionary notoriety, were the prominent agitators, was discussed and essentially matured, which contemplated the organization of a new province. Its imagined limits were to extend from the St. Lawrence to the Connecticut, resting at the north on the Canada boundary. In this project Skeene was to receive the appointment of governor of the contemplated province, and Crown Point was to be constituted the capital.

I have yielded my own convictions of the reality of this scheme, not alone upon the traditions on the subject, and the assurances of those who professs to have seen and possessed documents which elucidated the whole subject, but upon other forcible considerations.*

The aspect at that epoch of the controversy, relative to the New-Hampshire grants, rendered such an occurrence exceedingly probable. Cotemporary annals appear to recognize the existence of some project of an analogous character and purpose.† The diplomatic expedient of Allen, by which he asserted a claim to all Northern New-York, may have been suggested by this idea. Skeene, it is known, at this period, visited England on some important political mission, and was on his return to America on the verge of the Revolution, bearing, as he alleged, the appointment of "Governor of Crown Point and Ticonderoga.‡ In this designation of the limits and title of his government, is it not probable that he merely referred to these fortresses as prominent points embraced within his jurisdiction? Crown Point, it is as-

* Mr. Gilliland, the younger, who, at the commencement of the Revolution, was a schoolboy of fourteen, and died in Plattsburgh in the year 1847, assured Mr. Sheldon that this project was a frequent and familiar theme of conversation by his father. That he had often himself read the correspondence between his father and Skeene, on the subject, and that he had the letter of Skeene still in his possession. Mr. G., who was a gentleman of great intelligence, engaged to find and submit them to Mr. Sheldon, but he died before the time fixed for the purpose arrived. With the permission and aid of the Messrs. Gilliland, his sons, who reside at Salmon river, on a part of the original estate, I have carefully examined the family papers, but can discover no trace of this document.

† William's Hist. Vermont. Haskin's do. ‡ Skeene's letter to Hawley, March 16, 1775.

serted, was the designed capital of the projected province. This idea strengthens at once the opinion I have attempted to enforce, of the prominence and importance of Crown Point at that period, and attaches form and coherence to the existence of this scheme. Skeene was then possessed of a large landed estate, not only at Skeenesboro, but elsewhere in the environs of Lake Champlain. He held a tract in Essex county, still designated "Skeene's patent."

The accomplishment of this design might have involved the most momentous and sinister political results, at that peculiar epoch, when the vehement contest between New-York and Vermont had acquired its deepest rancour and excitement. It is not probable, had that event occurred, whatever may have been the political consequences, that Northern New-York would now exhibit a vast expanse of uncultivated and primeval wilderness.

An occurrence of deep import, suddenly dissolved all these visions of political plans and speculations, and for years arrested the progress of this miniature republic, and dispersed widely its population. A blow was struck, within the present limits of Essex county, which vibrated not only through the wide colonies, but was felt within the palace walls of St. James.

CHAPTER VIII.

FROM THE CAPTURE OF TICONDEROGA TO BURGOYNE'S EXPEDITION.

Haldibrand, the commander of Crown Point and Ticonderoga, had announced to the government, in 1773, that the fort at Crown Point was "entirely destroyed," and that at Ticonderoga in a "ruinous condition," and that both could "not cover fifty men in winter." The appeal to arms, which in April, '75, had sounded from the plains of Lexington, seems simultaneously to have suggested to various patriotic individuals and associations in the colonies, the idea of capturing these important fortresses, in their dilapidated and exposed condition. Members of the provincial legislature of Connecticut, with its secret connivance, but with no public recognition by that body, raised a fund to effect this object, and appointed a private committee to proceed to the scene,

and if practicable to execute the plan. In the county of Berkshire a small force was collected, and at Bennington the daring spirit and powerful influence of Ethan Allen were promptly enlisted in the enterprise. On the 7th of May, 1775, an intrepid band of two hundred and seventy volunteers, devoted to this daring purpose, and all of which, except forty, were from the Green mountains, had assembled in Castleton.

At this moment Arnold, invested with plenary powers from the Massachusetts Committee of Safety, to accomplish the same object, appeared upon the stage and claimed precedence in the command of the expedition. The contest which ensued and which threatened a fatal result to the whole enterprise, was terminated by the troops refusing to march, except under the guidance of Allen, their tried and cherished leader. Arnold, constrained to acquiesce in the decision, joined the force as an aid to the commander. Noah Phelps, a name that national gratitude should commemorate, one of the committee from Connecticut, assuming the garb and deportment of a settler, boldly entered the fort at Ticonderoga, and there exhibiting extreme ignorance and simplicity, and with the pretence of seeking a barber, wandered unsuspected about the works, and thus obtained an ample knowledge of the condition and forces of the fortress.

The garrison was slumbering in profound security. To procure the means of transporting the troops, Herrick had been sent to Skeenesboro, and Baker was to join them from Otter creek, but when the forces, in the night of the 9th, reached Shoreham, opposite to Ticonderoga, neither had returned with the necessary boats. Seizing those which could be reached, Allen boldly decided to proceed. The landing was effected at a little cove, a mile north of the fort. As the dawn of morning appeared, only eighty three men had reached the western shore, yet Allen knowing that delay would imperil the issue, determined at once to advance to the assault. The story of the gallant deed, to which the history of the world scarcely presents a parallel, need not here be repeated. The fortress which had cost so much blood and treasure, was won by the little band, in a bloodless triumph "in the name of Jehovah and the Continental Congress." Warner was despatched

to seize Crown Point, which was occupied by a mere sergeant's guard. That fort and garrison, the ensuing day were captured without resistance. The trophies of this conquest, were two hundred pieces of cannon, mortars and howitzers, and a large amount of military stores. Another most desirable acquisition to the patriot cause, was a ware house filled with materials for boat building.* These munitions were of great value and importance in the future operations of the colonies, but such results were far transcended by the moral influence and political consequences of this measure. Remember Baker had been summoned from Otter creek to participate in this expedition, and hastening to the aid of his old associate happily intercepted boats despatched from Crown Point to announce at St. Johns, the capture of Ticonderoga.

Arnold renewed his pretensions to the supreme command, after the reduction of the forts, in the arrogant and dictatorial spirit, that at every period of his career, sullied his character and marred his preferment. Although rejected by the troops, Allen in deference to the great intrepidity which had been exhibited by Arnold, partially acceded to these claims. The Connecticut committee however, justly assuming that the government of Massachusetts had no relation to this movement, established Allen in the command, with unlimited powers. A course which Massachusetts ultimately approved.

Elated with the eminent success of their bold project, it was decided to attempt the capture of an armed sloop, lying at St. Johns. A small schooner commanded by Arnold, accompanied by Allen in a batteau, proceeded to St. Johns upon this errand, and by successfully accomplishing it, secured to the Provincials the ascendancy on the lake.

Although Congress, on the intelligence of these extraordinary events, advised "the transportation of the various articles to a place of security," they required an inventory of them to be made, in the language of their resolution, "in order that they may be safely returned, when the restoration of harmony between Great Britain and the colonies, so ardently desired by the latter, shall

*Thompson's History of Vermont.

render it prudent and consistent with the overruling laws of self-preservation." Thus shrinking from the responsibility of the glorious deed, Congress refused to ratify the first deliberate and predetermined assault upon British authority.

History, in forming its judgment of the character and the services of the men who achieved these perilous and daring exploits, should regard the fact, that they acted under the behests of no legitimate and recognized government, but from the mere impulses of individual enterprise and patriotism; that their acts constituted outlawry, and that a failure would have entailed upon them the retributions visited upon treason and rebellion. By a singular coincidence, the Congress that determined to raise an army to assert the civil immunities of the colonies, assembled on the very day that beamed upon the capture of these fortresses. The reduction of Ticonderoga and Crown Point, opened to the colonies the gates of Canada.

The prescience of Allen's mind, and his practical sagacity, comprehended at a glance, the magnitude of the consequences which might result from the measure, and which he saw within the grasp of Congress. In urging with the warmest importunity and with irresistible reasoning, an immediate attack on Canada, he foreshadowed a policy, which then rejected, was afterwards adopted, when the auspicious moment had passed. In a communication to Congress in June 7th, he utters this vigorous and emphatic language "I would lay my life on it, that with fifteen hundred men I would take Montreal."

Ethan Allen stands out in bold prominence and originality among the extraordinary men, whose high attributes of mind and character were evolved from the crucible of the times. His own age, under the prejudices of controversy, was too prone to regard him as a rude and ferocious adventurer, inflamed by the mere animal impulse of courage, but without the intellectual qualities to guide and elevate their purposes.

The intellect that could attain and preserve a mastery over the minds and hearts of such a race as the "men of the Green Mountains," and wield that "fierce democracy" to his purposes, had no ordinary powers.

At Castleton, when Arnold asserted the command, every man shouldered his musket, and prepared to return to his home; but with Allen, their leader, they knew no doubt; they had no fear. It was no common mind that enabled him, with kindred spirits, on one hand, to paralyse the power of New-York, and on the other, by his keen diplomacy to arrest the progress of the British arms. History and posterity are beginning to appreciate Allen, and to award the guerdon long and unjustly withheld. Why should not the magnanimity and patriotism of New-York erect a monument on the cliffs of Ticonderoga, that shall redeem his name, and be a perpetual memorial of his great exploit.

Arnold, with indefatigable efforts and zeal, had equipped a flotilla, which he commanded, and that secured the supremacy of the lake; but perpetual feuds, which beset his path, led to his resignation and withdrawal from his position. No other event in this region distinguished that memorable year, except the organization of the forces for the invasion of Canada.

Congress, too late, adopted the plan suggested by Allen and Arnold, of the invasion of Canada. An army of two thousand men was assembled at Crown Point and Ticonderoga, under the successive command of Schuyler and Montgomery, and supplied with every appliance within the limited capacity of the government. It embarked at these posts on the 21st of August, 1775, on its impracticable and disastrous campaign.

General history amply portrays the fate of this gallant little army, its preliminary victories, its final repulse, and calamitous retreat. Congress, meanwhile, had pressed from the Champlain fortresses to the utmost extent of their means, reinforcements and supplies to its aid; but the severities of a northern winter, and the ravages of a loathsome disease, continued to pursue and waste it, until assailed by a superior enemy, the American army was compelled to abandon Canada.

Crown Point was evacuated, the buildings burnt, and the material not capable of removal destroyed; and the entire American forces, with their munitions, were congregated around Ticonderoga.

A large and perfectly equipped British army had concentrated at St. Johns, and menaced the colonies with a formidable invasion. Its advance depended upon the naval preponderance on the lake. To secure that result, each party exerted the most animated activity. Six vessels of a large class, which had been built in England, were taken apart, transported to St. Johns, and there, in the summer of 1776, reconstructed. Boats of various dimensions were built at that place with the utmost celerity, but with all these vigorous efforts of the British commander, the fleet consisting of thirty-one vessels, ranging in their armament from one to eighteen guns, was not prepared to advance into the lake until the ensuing 1st of October.

This formidable fleet was navigated by seven hundred veteran seamen, and armed in addition by an efficient corps of artillery.

Congress had been equally alert and energetic, but with means totally inadequate to the magnitude of the issue. The timber required for the construction of a fleet was yet standing in the forest, and was to be cut, prepared, and conveyed by human labor to the shipyards at Ticonderoga and Crown Point. The material for its equipment must be transported a long distance over roads, nearly impracticable. The ship carpenters, who must construct the vessels, are occupied by urgent duties in the yards upon the sea coast.

Amid all these adverse circumstances, the indomitable energies of Arnold formed and equipped a squadron of fifteen vessels, bearing an aggregate battery of fifty-five guns, and armed by three hundred and fifty gallant and determined men, who had, however, little or no experience in naval affairs. The great exigency invoked courage and sacrifices; and notwithstanding this vast disparity of strength, Arnold fearlessly threw himself across the path of the advancing enemy. The fleets met in the narrow strait between Valcour Island and the western shore, just beyond the northern limits of Essex county. For four hours the battle raged with unabated and terrific violence. Arnold leveling himself almost every gun, in his own vessel, conducted the battle with the highest skill and heroism. Night separated the combatants.

The American fleet, shattered and disabled, passing around the northern point of the Island, attempted to escape to Crown Point, enveloped in the fog of a dark and cloudy night. The earliest dawn, revealed their retreat to the vigilant enemy, and an instant pursuit ensued.

In the obscurity of the hour, a solitary rock, standing in the midst of the lake, and shrouded in the autumnal mist, was mistaken by the British, for a vessel of the American fleet, and a cannonade was directed against it. The mariner of the lake, still calls that rocky islet, "Carlton's prize."

Arnold was overtaken near Otter creek, by the British fleet, and in covering the retreat of the remainder of his squadron, maintained with his single galley and five gondolas for another four hours, a bloody and glorious combat. Determined to preserve his vessels from becoming trophies to the enemy, he ran the six ashore and blew them up. Their blackened fragments, for many years remained upon the beach at Panton, memorials of his gallantry and patriotism, long after other deeds had stamped infamy upon his name. One galley only was taken, while the rest of the fleet retreated to Ticonderoga.

Gen. Carlton advanced no farther than Crown Point, which he again occupied, and after spending a month in observing the movements of the American army, and threatening an attack at Ticonderoga, returned to Canada with his troops.

CHAPTER IX.

FROM THE YEAR 1776 TO 1784.

The colony upon the Boquet, had not remained amid these eventful scenes, undisturbed by the tempest, which had swept through the lake. Mr. Gilliland had espoused the cause of the colonies with ardor and enthusiasm, and was early marked as an object of ministerial vengeance.* In concert with men of congenial sentiments, a military organization, embracing both shores of Champlain, had been formed immediately after the capture of

* See his memorial to Congress in the Appendix.

Ticonderoga. He efficiently aided in the transportation of the American army in the invasion of Canada, and at its retreat from that calamitous campaign, his dwellings and garners were thrown open to relieve their necessities. His patriotic and generous munificence seems to have had no limit, but the ability to perform. Seventy head of beef cattle, and fifteen hundred salted salmon, were, in one season, among the items of his liberal and free contribution.

At the retreat of the American army, the inhabitants of this settlement, who had been prompt and decisive in avowing a hostility to England, and conspicuous for their progress and prosperity, were apprehensive of attacks from the Indians, and hastily abandoned their farms and dwellings, endeared to them by ten years of toil and privation, most of them never to return.

Gilliland, with his family, withdrew to the vicinity of Crown Point, but returned, with part of his tenants, to secure their harvests, and to remove and secrete their property. Ponderous articles were buried or sunk in the lake. Many families, homeless and destitute, embracing Carlton's offers of amnesty, joined the British forces, and in a few cases, adopted the interests of England. Much valuable property, thus secreted, was, by the agency of these loyalists, exposed to the British officials, and seized and confiscated.

On the 21st of June, 1777, Burgoyne landed with his brilliant army on the banks of the Boquet. Ten days were occupied in a reconnoisance of Ticonderoga, in reorganizing his forces, in drilling his boatmen, in the estuary of that river, in the evolutions incident to their duties, and in holding his celebrated congress with the Indian tribes.

The selection of this point, as the scene of so important an event, indicates its prominence. The summons of the British general had been responded to by the savage warriors, in far greater numbers than he had expected or desired. A redoubt, standing on an eminence above the river, and near the falls, was signalized by this picturesque and impressive spectacle. The operations of agriculture have now obliterated all vestiges of this work, although, until recently, its lines could be distinctly traced.

These hordes were addressed by Burgoyne, in a speech professing to restrain their ferocity, but calculated in its influence to inflame their savage passions. A war chief of the Iroquois, replied with equal vehemence, pledging the tribes to an eternal warfare, against the foes of England. A feast was held, the war-dance celebrated, and these merciless savages let loose upon the colonies.

Burgoyne, soon after, concentrated his forces at Crown Point, and there issued a turgid and declamatory proclamation addressed to the American people, which was equally unsuccessful in exciting their fears or winning their confidence.

The interval occupied by these delays, had been vigorously employed by Gen. St. Clair in improving the strength of the original fort at Ticonderoga, and in erecting additional works. A lofty eminence, named Mt. Independence, upon the eastern side of the lake, he fortified, by a strong and extensive redoubt. Congress, from inability or remissness, had failed to supply either munitions, or a garrison competent to the adequate occupation of the extended works.

Compelled by this fact to the course or swayed by a false security, St. Clair had neglected to occupy two other commanding and important positions. One of these, called by him Mt. Hope, to commemorate the high expectations formed by its capture, was seized on his advance by Gen. Frazer. The other, Mt. Defiance, is situated on the south side of the outlet of Lake George. Under the direction of Gen. Philips, the British had surmounted the rugged slope of this eminence, in the night preceding the 5th of July. With dismay and astonishment the Americans beheld at the early dawn, its crest occupied by a battery* bristling with ordinance and gleaming with the scarlet of the British uniform.

Neither Ticonderoga nor Mt. Independence was longer tenable, and a council of war decided without hesitation, to abandon both works. These posts were connected by a floating bridge one thousand feet in length. The same night, a division of the American troops were defiling in silence and order over this bridge, unsuspected by the enemy, when suddenly the glare of a burning house upon Mt. Independence shed a brilliant illumination over the scene and revealed their movements and position.

* The ruins of this battery are still very distinct.

The royal army was at once aroused, and at an early hour the British flag was again waving over the ramparts of Fort Carillon.

The Americans retreated in general confusion and disorder, to Hubberton, and there recovering their discipline and assuming a favorable position, awaited the attack of Gen. Frazer, by whom they had been closely pursued. Here was fought one of the most bloody, ably contested and disastrous battles of the Revolution. It has not acquired that prominence in American history, or that consideration from the country due to the valor and sacrifices by which it was signalized. Had the issue been favorable to the American arms, as was probable at one period, its results would have anticipated the consequences and the glory of Bennington.

St. Clair, embarking the main division of the garrison with the stores, munitions and provisions which it was practicable to remove, in batteaux protected by the galleys, retreated towards Skeenesboro.

The booms and bridges which had been constructed with the labor of many months, were at once burst asunder, and the British squadron bearing several regiments of troops, was soon in rapid pursuit of the retreating flotilla. Two of the galleys were taken by the enemy, the rest were destroyed by the Americans.

Burgoyne acquired by the capture of Ticonderoga a vast amount of stores, ordinance and other military supplies.

I leave to public history the recital of the subsequent progress and fate of Burgoyne.

A bold and spirited scheme was conceived in the following September by Gen. Lincoln, then in the military command of Vermont, to assail the base of Burgoyne's operations and to surprise Ticonderoga. The plan, which was pursued with great boldness and zeal, had entire success, except in the capture of the fortress itself. Mt. Hope and Mt. Defiance* were recovered,

* Capt. Ebenezer Allen, with forty "Green Mountain boys," surprised and captured the works on Mt. Defiance, which contained a garrison of two hundred men and fortified with artillery. He subsequently, with a small force, by a ruse, made prisoners of the rear guard of the retreating garrison of Ticonderoga, with a large quantity of stores and munitions. This feat occurred near the present village of Essex.—*Butler's Address.*

a large number of American prisoners released, several hundred of the enemy captured, with an armed vessel and more than two hundred batteaux.

After the surrender of the British army at Saratoga, the garrisons upon Lake Champlain evacuated and dismantled the various posts and withdrew their entire forces into Canada.

Bands of tories, more ruthless than their savage allies, fleeing from the disorganized army of Burgoyne, with passions inflamed and vindictive, left a track of desolation in their retreat. Tradition avers that not a dwelling in the whole Gilliland settlement, from Splitrock to the Boquet, escaped the torch.

No further belligerent mov ments of interest occurred during the war upon the shores of Lake Champlain.

Gen. Haldimand advanced in 1780 to Ticonderoga, and again occupied the fort, rather apparently in a diplomatic, than a military attitude.

The armistice established by him and the Vermont authorities, which extended to the Hudson river, was probably regarded as embracing the Champlain valley.

Ticonderoga, in this interval, was the scene of those undefined negotiations between Vermont and England, the character and purposes of which have excited so much discussion, and which are still enveloped in such profound obscurity.

Whether the intentions of Vermont were disloyal to the au thority of Congress, or dictated by a consummate diplomatic sagacity, the direct effect of this armistice was most auspicious to the interests of the country. It threw an effectual shield over the whole northern frontier, and for a long period arrested the action of ten thousand British troops.

The fields which had been cleared and cultivated on the Boquet with so much labor, had been abandoned from '76 to '84, and when peace restored tranquility and security, and the settlers returned, they found that nature had almost re-established her

empire over the territory. Brambles and weeds infested the land, the roads had become impassable, the fences and bridges were prostrated and decayed. Much of the former toils of the colony were to be renewed.

The personal history of Mr. Gilliland, so intimately interwoven with the settlement and progress of the county, demands attention.

In common with an innumerable class of patriots, who had freely lavished their fortunes upon the country in the hour of trial and effort, the peace of '83 found Mr. Gilliland deeply embarrassed in his pecuniary affairs.

The acquisition of an estate of 30,000 acres upon the borders of Champlain, with the disbursements incident to its improvement, had involved the expenditure of a large amount of his means.

He had lived in great comparative affluence and splendor, dispensing munificent charities and a generous hospitality. Driven from his home by a ruthless invader, his estates were wasted, and for several years abandoned and unproductive.*

In the progress of the war he had been reduced almost to indigence and destitution. Arnold in his progress through the lake, with characteristic rapacity and violence, had ravaged the property of Mr. Gilliland. He appealed to Congress for remuneration of his advances, and indemnity for his various losses, but the exhausted treasury of the country could afford no relief.

Returning to his wide possessions, he saw them wasted and desolate. Abandoning his long cherished purpose of erecting his property into a manorial estate, he decided to sell his lands in fee. The first purchasers were Joseph Sheldon and Abraham Aiken, of Dutchess county, who went into the occupation of their lots in March, 1784, and were the pioneer settlers under the new arrangement, in the limits of the present town of Willsboro.

During that spring fourteen other families purchased and occupied farms, and several other individuals bought lots, and commenced improvements.

* See Memorial in Appendix.

The lumber required for their buildings was procured at Vergennes. The saw mills at the Boquet, destroyed in the course of the war, had not, at that time, been rebuilt.

Meanwhile, other embarrassments gathered around to darken and accelerate the decaying fortunes of Mr. Gilliland. In several of the claims purchased by him in good faith, and for valuable considerations, and regularly located, he had filed the requisite applications in the appropriate colonial offices. The confusion incident to the convulsed period which ensued, impeded, and finally prevented the consummation of these grants by patents.

An act was passed by the Legislature of New-York, in effect abrogating all such grants, in which the royal functionaries had not formally issued the patent. Having studiously performed all the preliminaries exacted by the provincial statutes, Mr. Gilliland had reposed in undoubting reliance on the validity of his titles.

Others appropriating, as he alleged, a transcript of the boundaries of the premises, contained in his documents, had applied to the new government, and obtained patents of the territory embraced in his previous locations. Litigation ensued. The antagonist titles were sustained. Costs and expenses followed, which absorbed the remnant of his property, and led to his imprisonment upon the goal limits of New-York.

He returned at length to his former residence, despondent, and cherishing a disgust at the heartlessness and ingratitude of many, whom, in brighter days, he had fostered and protected; and partially alienated in mind, he wandered into the wilderness and died. Thus the pioneer of Essex county, the former possessor of baronial domains, perished from hunger and exposure—

"Without a friend to close his eyes."

The large estates of Mr. Gilliland passed into other hands. His descendants remain in Essex and Clinton counties, among the most prominent and respected of their citizens. "Willsboro" commemorates the name of William Gilliland. "Elizabethtown" was called after his wife.

CHAPTER X.

TO THE WAR OF 1812.

A strong current of emigration from New-England rapidly diffused a hardy and valuable population along the western shore of Lake Champlain, and gradually penetrated the interior. Ticonderoga and Crown Point were settled by American emigrants at the close of the revolution. George and Alexander Trembla were among the earliest and most prominent of those settlers. Two lots upon Whallon's bay were occupied the same year by Amos and David Stafford.

The name of Charlotte county was in 1784 changed to Washington, and the eventual arrangement of the Vermont controversy limited its territory in the Champlain valley to the western side of the lake.

On the division of Washington county in 1788, a new county was organised, embracing the territory which now constitutes the counties of Essex, Clinton, and the eastern section of Franklin.

The new county was called Clinton, and was divided into the four towns, Champlain, Plattsburgh, Crown Point and Willsboro, which were incorporated at the same time with the organization of the county.

The town of Crown Point, in its original limits, comprised the present town of that name, Ticonderoga, Moriah, Westport, Elizabethtown, Schroon, Minerva, Newcomb, North Hudson and a part of Keene. Willsboro', embraced the residue of the present county of Essex, and three towns now included in Clinton. Each of the towns of Crown Point and Willsboro, at the period of its organization, spread over a territory of about nine hundred square miles.

At the first town meeting of Willsboro', Melchior Hoffnagle was elected supervisor, and Daniel Sheldon town clerk. The first town meeting of Crown Point was held in December, 1788. At this epoch, the ordinary civil functions of incorporated towns were little regarded or enforced. A plan was adopted by which the

town officers were apportioned to the various prominent settlements. Each locality, designated, in a primary meeting, the individuals who should receive the several appointments appropriated to them. A delegate bore the respective nominations to the general town meeting, in which they were almost uniformly confirmed. At the general elections, the polls were held on the two first days, one half a day in a place, and on the third at some central or populous point. These expedients facilitated and secured as far as practicable, the exercise of their civil rights to the settlers.

A claim instituted by the Caughnawaga and St. Regis Indians in '92, to a vast tract of land, embracing nearly the entire territory between the St. Lawrence and Mohawk rivers, was urged for many years with great pertinacity and earnestness. It was resisted on various grounds, without violating any principle of public justice and private rights; investigation amply established the facts, that these tribes had no original title to the district, but that it was held exclusively by the Iroquois, who had alienated it to the whites by sales to individuals and by cessions through public treaties.

Charles Platt was appointed the first judge of the newly organized county, and William McAuley, of Willsboro, one of the side judges. Plattsburgh was made the shire-town of the county.

At this period no road had been constructed from Willsboro, north of the Boquet river. The traveller was guided solely by blazed trees over the Willsboro mountain. The route thus indicated, extended through the forest to the Au Sable river, which was crossed at the "Highbridge," about three miles below the site of Keeseville. A wood road had been opened from that point to Plattsburgh. A similar track, it is probable, was the only avenue of intercourse between Crown Point and Splitrock.

The settlement at Ticonderoga was about seventy miles distant from Plattsburgh; at which place the inhabitants were compelled o appear, to assert their rights as litigants, or to discharge their duties as jurors and witnesses.

Jay was incorporated as a town in January, and Elizabethtown in February, 1801. Chesterfield was organized in 1802, and Essex and Lewis, April 4th, 1805.

In 1790, Platt Rogers established a ferry from Basin Harbor, and constructed a road from the landing to a point near Splitrock, where it connected with the road made in an early period of the settlement. He erected, in the same season, a bridge over the Boquet, at Willsboro falls, and constructed a road from that place to Peru, in Clinton county. These services were remunerated by the State, through an appropriation to Rogers and his associates of a large tract from the public lands. The venerable Judge Hatch, who still survives, was one of the earliest settlers in the interior of the county. He moved, in 1792, into that part of the town of Essex now known as Brookfield, which was surveyed and sold in 1788. This district, he says, "was at that time chiefly in a state of nature." In 1804, he "removed to the village of Westport, then called 'North West Bay.' The distance was eight miles, and the removal of his family occupied two days and the labor of four men to open a passage for a wagon. At Westport a small improvement had previously been commenced, and one frame house, three log houses, a saw mill, and one barn, had been erected. No road extended south, beyond the limits of that town. A track had been opened to Pleasant Valley, where an infant settlement had just been formed. A road which was almost impassable extended to the new colonies in Lewis, Jay and Keene."* The alarm and excitement which agitated the whole country at the defeat of St. Clair, in this year, and the apprehension of a general combination of the Indian tribes of the west with the Six Nations, extended to these humble hamlets.

A block house was erected for the protection of the inhabitants, near the village of Essex. In the subsequent organization of Essex county, that edifice was converted into a court house and jail. The enterprise of the pioneer of New-England had penetrated the gorges of the mountains, and his keen eye had fastened upon rich and alluring districts far in the forest paths I have mentioned. The table lands of Jay, the fertile valleys of Schroon,

* Letter Hon. Charles Hatch.

and the ravines and slopes in Lewis, Elizabethtown and Keene, were all occupied previous to 1798.

An exploring party from the east had reached an eminence in Elizabethtown, that looks down upon the beautiful vale now occupied by the county seat of Essex county, embosomed among a lofty group of mountains, and adorned by the branches of the Boquet, which glide through its verdant plains, and gazing in delight upon the scene, they pronounced it "Pleasant Valley." It still preserves, by common sentiment, the name and the same pre-eminence.

Schroon was settled about the year '97, by Samuel Scribner, Thomas Leland, Moses Patee, Benjamin Banker and Simeon Rawson, who were all men of New England. Thomas Hinckley, made the first purchase in the town of Lewis, in 1796. The most important measure designed to open and develope the interior sections of the county, was the enactment of laws which authorized the construction, by Platt Rogers, and others, of public roads. I have already referred to one. Another was authorized to be constructed from Sandy Hill to the Canada line, and passing along the Schroon valley, through Elizabethtown and Lewis, and crossed the Au Sable river at a fording place near Keeseville. This highway is still designated as "the old State road." Numerous appropriations, at more recent periods, have been made by the State, for the construction of public roads, which traverse the county in various directions.

One of these, opened many years since, extending from Westport to Hopkinton, traversing Elizabethtown, the gorges of the Keene mountains, and the plains of North Elba, penetrated what was then denominated, the "fifty miles woods."

A road, constructed under acts of 1841 and '44, from Lake Champlain to Carthage, in Jefferson county, is now in progress, and is built by an application of specific road taxes. It passes through the towns of Crown Point, Schroon and Newcomb, penetrating the heart of the Adirondacs. These avenues are of the deepest importance in promoting the progress and improvement of the county. Rogers and his associates, received an enormous

grant of unappropriated lands, covering an area of about 73,000 acres. It costs, in the construction of these roads, according to the estimates preserved by tradition, "one penny and two farthings per acre."

Essex county was organized in 1799, in the division of Clinton county, and is now bounded on the north by Clinton and Franklin counties, on the west by Franklin and Hamilton, on the south by Washington and Warren, and on the east by Lake Champlain. The area of this county embraces 1,779 square miles, or 1,138,500 acres. It is the second county in territorial extent in the State, being only exceeded by St. Lawrence.

New towns, by repeated divisions, have been occasionally formed, as circumstances and the convenience of the population required. The county now comprises seventeen incorporated townships, several of which comprehend more territory than some of the counties in the State. Nearly all of them are too extended for the convenient exercise of their civil and political functions. The village of Essex was originally constituted the county shire, and the old block-house, mentioned before, was appropriated for the public use, and was occupied for these purposes, until the removal of the county seat to Pleasant Valley. By the census of 1800, the combined population of Clinton and Essex counties, was 8,572, including 58 slaves. The next decade exhibits a very decisive increase. Essex alone contained, by the census of 1810, 9,525 population, and Clinton 8,002. The following tabular exhibit, will present the progress of the county in population.

TABLE *showing the increase of population in Essex county.*

TOWN.	1810.	1825.	1830.	1835.	1840.	1845.	1850.
Chesterfield,	631	1,151	1,671	2,083	2,697	3,022	4,171
Crown Point,	1,082	1,728	2,041	2,189	2,212	2,261	2,378
Elizabethtown,	1,362	1,029	1,015	856	1,061	1,194	1,635
Essex,	1,186	1,288	1,543	1,529	1,681	1,720	2,351
Jay,	1,164	1,216	1,729	1,732	2,260	2,431	2,688
Keene,	642	707	287	700	730	809	798
Lewis,	537	1,101	1,305	1,358	1,500	1,681	2,058
Minerva, taken from Schroon,	....	371	358	335	455	496	586
Moriah,	584	1,251	2,742	2,293	2,595	2,807	3,065
Newcomb,	....	....	62	46	74	126	277
North Elba, taken from Keene,	....	....	....	....	....	....	210
North Hudson, taken from Moriah,	....	...	....	....	....	....	561
St. Armands, taken from Wilmington,	....	....	....	....	....	129	210
Schroon,	689	1,290	1,614	1,723	1,660	1,705	2,031
Ticonderoga,	985	1,833	1,996	2,080	2,168	2,309	2,669
Westport,	....	1,322	1,513	1,724	1,932	2,094	2,352
Willsboro',	663	1,166	1,316	1,253	1,667	1,424	1,932
Wilmington,	....	637	895	798	928	894	1,176
Total,	9,525	15,993	19,386	20,699	23,620	25,102	31,148

Essex county voted with Clinton, until after the census of 1800. Thomas Stower was the first representative of Essex, when voting independent of Clinton. The history of the industrial pursuits of the county, early in the present century, attained a predominant interest over its civil and political annals. That is reserved for a distinct department of this report.

CHAPTER XI.

SETTLEMENT.

The war of 1812, although it closed many of the ordinary channels of business in this county, accelerated its progress by the new demands created for all the products of industry and agriculture, and by the general and abundant diffusion of money it produced.

The enemy appeared on several occasions in the waters of Essex county, and in the summer of 1813, entered the Boquet with two gallies and two barges. Landing at different points, and committing many wanton ravages on private property, they retired after a slight skirmish with a body of militia near the former entrenchments of Burgoyne.

The citizens of the county exhibited promptitude and zeal in responding to the calls of patriotism, during the war, and particularly on the approach of the British forces, in 1814 upon Plattsburgh. Many of the volunteers and militia of Essex, creditably participated in the events of that brief, although glorious campaign.

The masses of the settlers of Essex county, were of New England origin, and in a congenial soil and climate, familiar to their habits and experiences they implanted the usages and characteristics of their puritan fatherland. No county of the state embraces a population of higher intelligence, of purer morality, or more industrious and frugal habits. Its early history presents only a counterpart of the aspect of every new colony, where among the virtuous and worthy, there always drifts from more matured communities, the loose and reckless.

The disorganizing and demoralizing effects of the war of the Revolution, exerted a malignant influence upon the character of the frontier population. Essex county was not exempt from these consequences. The testimony before me of aged citizens, presents a striking portraiture of the state of society, in some sections of the county, where the restraints of government were scarcely recognized and where laws seem to have administered only to evil passions.

I quote the language of a judicious observer, in speaking of a town, now second to none in its high moral and social position, "when an individual wished to secure a piece of land, he erected upon it a cabin, and repelled others by physical force, if unsuccessful or absent, his cabin was prostrated, and the last aggressor took possession of the coveted premises, and claimed the title. The parties with their partizans and a supply of wiskey, met on the soil, and "tried their wager of battle." The victor maintained the possession. To correct these evils an association was formed, and a system adopted, which required a person desiring to occupy a lot, to perfect a survey of the premises, and to file a transcript with the secretary of the society. The title thus established was held sacred, for the purpose of that community."*

The venerable author of a communication, describing the primitive habits of the county states "that justices' courts, at that period, were usually held in taverns, the inn keeper himself being the justice. The most frivolous difficulties, were nursed into law suits, these attended amid intemperance and revelings, led to assaults, and trifling controversies which engendered further and debasing litigation.†

Essex county presented in this rude and demoralized class of its citizens, a stage of society exhibited along every frontier of civilization. Wherever I have succeeded in tracing the history of the early settlement of this county, I almost universally have found one prominent feature developed, and which strongly marks the character and descent of the people.

The first impulse, and almost instinct of the settlers, even when their cabins were scattered over a wide area of several miles,

* C. Fenton, Esq. † Levi Higby, Esq.

seems to have been to secure the erection of a school house. For many years in the early stages of the settlements, these schools had no legal organization and were sustained alone by the voluntary contributions of the people, unaided by the public bounty.* The school house supplied the place of public worship. The missionary at an early day appeared in the midst of these settlements, superceding in the religious duties, the humbler offices of the private christian. Churches were soon organized in various sections of the county. Many colonies, were accompanied in their emigration by their own spiritual guides.†

The cold season of 1816, which produced such universal distress and suffering, inflicted a scarcity upon this new country, that visited it almost with the horrors of famine. So close and pressing was the destitution, that the indigent, gathering from many miles about a mill, would crave the privilege of collecting its sweepings, to preserve the lives of their families.

A few sufficiently provident to cut the corn in the sap, saved it sound enough for planting. In the succeeding spring, many traveled fifty miles to procure this seed.‡ Partial failure of crops had before occured, but the season of 1816, will long be memorable, as the only instance in the history of the county, of extreme penury and suffering.

In presenting with a rapid sketch, a general outline of the further civil and social progress of the county, I propose, in order to avoid repetition, and to render the exhibition of its agricultural and industrial pursuits more intelligible, to glance first at the topographical features and soil of the several towns.

Ticonderoga and Crown Point present, upon the margin of Lake Champlain, a low and beautiful tract, gently undulating

*John Hoffnagle.

†I applied soon after my appointment from which has emanated this report, to the Rev. Cyrus Comstock, who for near sixty years, had been intimately and with prominence, associated as missionary and pastor, with the religious affairs of Essex county, for materials to prepare an extended sketch of its ecclesiastical history. He engaged to comply with my request, but his sickness and death, have disappointed my expectations and extinguished a source of valuable and interesting information on this subject, which I fear cannot be supplied.

‡John Hoffnagle.

and gradually ascending as it recedes, and swelling towards their western limits into bold and abrupt eminences.

Clay predominates in these towns in the vicinity of the lake, intercepted by occasional seams of sand, and in the interior the soil is generally a gravel or sandy loam. Several sections of these towns are distinguished for the great excellence of their meadow lands.

A view of Westport, Essex and Willsboro, from the lake, presents ranges of highly cultivated and fertile farms, mingled with a combination of hills and plains which beautifully adorn and diversify the scenery. The two former spread into the interior bosoms of choice land, more elevated and which are environed by lofty hills and mountains. Willsboro' point is a low, flat peninsula, projecting several miles into Champlain, having the ong estuary known as Pereu bay, on its western side. This portion of Willsboro' affords some of the best farms in the county. A ridge of high, warm and rich land traverses the town of Essex diagonally from near the lake to Whallonsburgh, embracing a territory of great natural fertility and inferior to few sections of the State in the advanced character and excellence of its tillage. The soil of these towns is very diversified, although a sandy loam is its prevailing character.

Moriah and Chesterfield, both bordering upon the lake, are more broken and stony than the other lake towns, and contain less arable and cultivated land. The former ascends abruptly and in a series of terraces or high valleys, until it attains an elevation of several hundred feet a short distance from the lake. The soil of this tract is deep and strong. Chesterfield contains many ranges of sand and rocky districts, but embraces much territory of very superior land.

Elizabethtown and Lewis, lying among the gorges of the mountains and intersected by various branches of the Boquet, expose chiefly a light soil, with some alluvial flats and valleys enriched by the debris of the upland, which forms tracts of the choicest land. Parts of these towns are managed, in their agricultural affairs, with great skill and sagacity. No town, in the arena of

our county fairs, has borne off more prizes on both crops and animals, than Lewis. Many of the citizens of Lewis occupy the first rank, in their position as farmers.

North Hudson and Keene, while they include several fine farms, are in the aggregate, broken and mountainous. The territorial limits of Schroon equals the area of some counties, and is exceedingly diversified in the face of the country and the nature of the soil.* The centre of the town forms a beautiful rich valley of warm alluvial soil, through which flows, along high and even banks, the waters of the upper Hudson. Successful cultivation has been extended into the ravines and recesses of the mountains traversed by tributaries of this stream. Fertile and cultivated tracts occur in various other sections of the town. On each side of the Schroon valley, lofty and rugged mountain tracts spread over a large proportion of the territory.

The local position of Schroon, remote from Lake Champlain, and separated from it by a range of high and almost impenetrable mountains, and sequestered from all other natural avenues, is unfavorable to the development of its vast native resources. A plank road extending from Glen's Falls to Chester, in Warren county, approaches its borders, and partially opens an access to market of the products of its industry and agriculture. Strong considerations of general interest are now directed to the subject of constructing a railroad through this important valley. Few public improvements are contemplated, which would evoke more varied and extended elements of business and wealth.

The town of Minerva was organized from a part of Schroon, and incorporated in 1817, when it comprised a few log cabins scattered over its wide surface. It is situated in the extreme south-western corner of the county. A very large proportion of this town is still occupied by the original forest. Separated by

* This town derives its name from the lovely lake which it embraces. The legend is, that the lake was visited by the French in their military expeditions and in fishing and hunting excursions from Crown Point and Ticonderoga, and was named by them "Scaron," in honor of "the widow Scaron," the celebrated Madam Maintenon, of the reign of Louis XIV. Col. Andrew L. Ireland, of New-York, has a very beautiful seat on an island in this lake, which he calls "Isla bella," and which is embellished with great taste. The islands of this lake afford sites for elegant and retired villas and country seats, unsurpassed by the waters of Cumberland and Westmoreland, in picturesque beauty and romantic seclusion.

a high range of mountains, from other sections of the county, connected with them by imperfect communication and with little associations in their business affairs, this most valuable and interesting town has been little known or appreciated. Depressed by a combination of adverse circumstances previous to 1848, since that period a new career has marked its progress. In the general improvement of the town, in the appearance of the farms, the erection of new buildings and the renovation of the old ones, no part of the county exhibited to my observation, more decisive and gratifying evidences of prosperity and advancement.

The physical formation of Minerva is peculiar and striking. The whole territory of the town is elevated, rising in a gradual ascent of a succession of lofty valleys, formed by deep, broad, and sweeping undulations. This formation, viewed from an eminence, communicates a rich rural aspect and great beauty to the landscape. In the language of one of its inhabitants,* "Minerva is a rugged and mountainous town, containing about one-third mountain, one-third feasible land, and the residue rough and stony." A good road connects it with Warren county, where it would communicate with the contemplated railroad.

The soil of this town is chiefly a strong and warm sandy loam. Large tracts of rich and desirable land remain unappropriated. These lands are in the market at exceedingly low prices. The town of Newcomb, which embraces the mass of the Adirondac group of mountains, forms, essentially the great water shed, from which flows tributaries of the Hudson, St. Lawrence and Lake Champlain. It is high, spreading over an elevation, (a part from the altitude of the mountains) ranging from 1500 to 1800 feet, which presents a broken and rocky surface. Yet its slopes and elevated valleys comprise tracts of much natural vigor, with great depth of soil. These qualities of the earth, are exhibited by the dense and stately growth of its primitive and magnificent hardwood forests. Isolated farms have been occupied in different parts of this town, since an early period of the present century.

Newcomb embraces many districts of arable land, which are admirably adapted to meadow and grazing, from the vigor of the

* A. P. Morse.

soil, and the humidity of the climate. The resuscitation of the Adirondac works, will render this neglected mountain tract, for these purposes, a valuable agricultural district.

Jay was settled as early as 1798; remote, and at that time nearly inaccessible from Lake Champlain, its great natural fertility and beauty attracted the emigrant, who, passing by lands contiguous to that great artery of the country, penetrated to this wilderness by a mere bridle path, and transported thither, on horseback, his family and effects. A large portion of this town is formed of high and precipitous hills and mountains, and its whole territory is elevated.

In the valleys, the soil is light, but usually vigorous. Upon several parallel ridges, which traverse nearly its entire length, ranges of land occur, distinguished by a warm, quick, and highly productive soil. These tracts allured the early emigration to this region almost sixty years ago, and they still preserve their high character for great and enduring fertility.

Wilmington and St. Armands recently separated from it, occupy the north western angle of Essex county. They are generally, in their topographical aspect, elevated, rough and mountainous. The soil is sandy and gravelly, with occasional alternations of loam. These towns comprise numerous bosoms and flats of excellent land. The long slopes gradually descending from the mountains to the valleys of the streams, present a highly picturesque and beatiful scenery. Settlements commenced in Wilmington in 1800, and in the district now forming St. Armands, not until 1829, by any permanent occupancy.*

CHAPTER XII.

SETTLEMENT CONTINUED.

The town of North Elba is environed, upon all but its western borders, by a lofty Sierra, which separates it from the other sections of the county, by an almost insuperable barrier. It is now approached only by a circuitous route, through Clinton and Franklin counties, or by the State road, which passes through

* Elias Goodspeed.

the deep gorges, and along the high and broken slopes of th Keene mountains.

North Elba has little assimilation to the other towns of the county, either in its topographical arrangement or in the character of its soil. The gigantic amphitheatre of mountains, which almost encircle the town, form in its outline an arc of nearly sixty miles in extent, and embraces within this area, a territory of about one hundred square miles.

Upon the west, the plains of North Elba, mingle with that vast plateau, teeming with rivers and lakes and forests, which spread to the shores of the St. Lawrence. The grandeur and imposing beauty of these mountain bulwarks, which singularly blending with a landscape of lakes and rivulets, vales and hills, combine to form a scenery of surpassing loveliness and magnificence. From one position, the eye gazes on the lofty group of the Adirondac mountains. Mt. Marcy stands out in his perfect contour and vast dimensions, Mt. McIntire, Colden, McMartin, trace their outline upon the horizon, and far towards the south-west, the group of Mt. Seward limit the view; on the north, "the Whiteface" envelopes the plain, and on the east, tower the dark and rugged cliffs of the Keene mountains.

The western branch of the Au Sable river flows through the town, and nearly the whole distance along a wide alluvial valley, almost as broad, and apparently of fertility equal to the flats of the Mohawk river. The soil of this "intervale" is generally a deep alluvial. Ascending from the valley to the table land, the earth becomes a dark and rich loam, free from stones and rock. The growth of hard wood upon this territory, is in no part of the State surpassed in its size, quality and density. Its maple, birch, cherry and beech, are as stately, and form as highly timbered woodland as in the most favored sections of the country. Slightly elevated above the table-land, and receding from the river, commence the plains, which expand far into the interior. This tract embraces, in its general character, a warm, rich sandy loam. This land is scarcely inferior to the other soils of the town in vigor, while it exerts an early and more impulsive influence on vegetation, and is more easily and cheaply tilled.

With a view of instituting a comparison between this rich and beautiful region, and some of the most highly cultivated and productive districts of Vermont, and thus to test the adaptation of the former from altitude and climate, to agricultural purposes, I applied to the venerable and distinguished professor of Natural History, in the Vermont University, Rev. Zadock Thompson, for information on the subject. His reply is contained in the very interesting note annexed.*

It will be perceived that the elevations mentioned by Professor Thompson, are from the basis of Lake Champlain, which is itself ninety-three feet above tide water. The plateau, which embraces the arable parts of North Elba, is estimated in the report of Professor Benedict, as ranging from 1,400, to 1,800 feet above tide. This town contains nearly eighty thousand acres of land, seven-tenths of which, it is computed, are susceptible of cultivation. I shall resume in other branches of this report, the consideration of its industrial resources and agricultural capabilities.

In the north-eastern section of North Elba, and spreading into Wilmington, the most extensive and valuable tract of pine, spruce and hemlock, occurs which now remains in the county of Essex.

* With regard to "the altitude of the highest choice agricultural farms," in Vermont, it may be remarked, generally, that a very considerable proportion, the choice and productive farms, lie at an elevation of more than 500 feet above the level of Lake Champlain, and many excellent ones in the central part of the State, at an elevation of 1,000 feet. Between Jericho Corners and Underhill flat, are several very choice farms, which lie 550 feet above the lake, and, at about that elevation, are a great number of excellent farms, scattered along the western slope of the Green Mountains, from the central part of Addison county, to the Canada line. The broad and fertile valley of Otter Creek, from Middlebury, to the south part of Rutland county, has an elevation varying from 300 to 500 feet. The average height of the cultivated farms lying between Lake Champlain and the summit of the Green Mountains, is about 400 feet. In Franklin, and in the northern part of Chittenden county, there are large tracts of sandy plains, which were originally covered with pines, and which have a pretty uniform elevation of 200 feet. The soil is light, and naturally, not very productive. The lands in all the counties north of Rutland, rise gradually from the lake shore to the summit of the Green Mountains, where they have an altitude of 4000 feet, and some very good farms are cultivated at an elevation of 900 feet. East of the main ridge of the Green Mountains, there are excellent farms at a still greater elevation. The whole county of Orleans, lies more than 500 feet above Lake Champlain; and it contains many fine productive farms, and some of the finest and most productive are on the swell of land called "Craftsbury Common," at an elevation of 1000 feet. Further south, in the western part of Orange county, there is a similar, but much larger swell, constituting the principal part of three townships, viz, Randolph, Brookfield and Williamstown. This tract is elevated from 800 to 1,200 feet above Lake Champlain, and upon it are many of the most beautiful and most productive farms in the State.

While almost the whole timber land in the county has been exhausted, this has been preserved, for a field of future enterprise, by its sequestered and inaccessible position.

The great beauty of this town, its agricultural capabilities, and its peculiar history as well as the general absence of information relative to its character and importance, seem to require a somewhat extended view of its progress and condition.*

A few pioneers, near the commencement of this century, with their families, entered into this remote and deeply secluded region. They seem to have encountered severer hardships and trials than the ordinary privations incident to a frontier life. Divided from civilized society by a chain of almost impenetrable mountains, they probably reached the place then known as the Plains of Abraham, by the circuitous route, now traversed by a road, along the course of the Saranac. While they waited in expectation of the scanty harvest yielded by their improvident agriculture, they subsisted by fishing and hunting, and from supplies transported by their own labor from the nearest settlements. The numerous beaver meadows furnished an abundant supply of fodder and grazing for the cattle. Until 1810 little progress was made either in the agricultural or social condition of this remote colony. The construction about that period of the "Elba Iron Works," by Archibald McIntyre and his associates, gave a new aspect to the affairs of this region. The history of that enterprise I shall narrate in another place. The requirements of these works created occupation for all the population in the vicinity, formed a domestic market, and attracted numerous settlers. Schools were established, religious ordinances observed, and an efficient and benign influence exerted by the benevolent proprietors. Unhappily for the progress and permanent prosperity of the district, nearly all the land in the township at this period was held

* The vestiges of Indian occupation in North Elba, and the territory around the interior lakes which remain, leave no doubt that at some former period they congregated there in great numbers. I found in the county a obscure tradition that the partizan Rogers attacked and destroyed a village in the absence of the warriors, situated on the "Plains of Abraham;" that he was pursued and overtaken, and a battle fought on the banks of the Boquet, just below the village of Pleasant Valley. Relics of both European and savage weapons of war found on the scene of the supposed conflict, seem to corroborate the legend, or at least indicate the probability of an engagement between Europeans and Indians having occurred at that place.

by the State. The emigrant, when he arrived, selected his lot without perfecting a title, or even securing a pre-emption, relying upon his right and ability to do so at his convenience. This delay eventually defeated their occupation of the farms, and blasted all the anticipated rewards of the toil and privations of the pioneers.

In the language of a citizen of the town, "a great landholder heard of this territory of State lands, came and inspected it, returned to Albany and made a purchase at the land office of the entire tract,"* The settlers, soon apprised of this event, so fraught with evil and calamity to themselves, sought to purchase of him their possessions. He announced to them that the lands were not, at that time, in market. They too well understood the purport of this intimation. They were not, however, disturbed in their occupation, but unwilling to continue a course of improvement, which might enure only to the benefit of a stranger, little further progress was made in the cultivation of their farms, and the land was gradually abandoned with the exception of a few lots.

The calamitous season of 1816, visited that elevated region with augmented severity and suffering. The Elba company relinquished their works about the year 1820. This event was the final catastrophe in the affairs of the original settlement of the town. When the country was generally abandoned under these circumstances by the inhabitants, their improvements had extended over a large tract of meadow, arable, and pasture land. The few occupants who remained, enjoyed the unmolested use of these cultivated fields, and neglected the appropriate care and tillage of their own premises. The enclosures rapidly decayed, and the territory soon became an extensive common. The scattered inhabitants reverted to the Beaver meadows for fodder, and hunting and fishing again became their chief occupation. The roads fell into decay, schools were discontinued, religious ordinances

* T. S. Nash. I am deeply indebted to Mr. Nash for elaborate notes on the history, &c., of North Elba, prepared at my solicitation. They evince unusual sagacity and discrimination. I regret that my limited space will not permit an introduction of these notes, as they furnish evidence that the "Backwoodsmen of America can wield the pen with almost as much vigor as the axe."

were forsaken and the restraints of the Sabbath, with rare exceptions, disregarded.†

In 1840, only seven families remained on the 80,000 acres which now forms the town of North Elba. At this time the lands were offered for sale, emigration was again directed to the region, and the evidences of returning prosperity were restored. The public highways were again opened and improved. At this period a new episode occurred in the chequered history of North Elba. Mr. Gerrit Smith, who had become an extensive proprietor of the town, made gratuitous conveyances of a large number of quarter lots, embracing forty acres each, to colored persons, with the professed design, it was understood, of forming a colony, which should constitute an asylum for a peculiar class of African population. I found no difference of opinion in that region, in reference to the character and results of this movement. Whatever may have been the motive of the benefaction, the issue of the experiment has entailed only disappointment and suffering upon the recipients of the gratuity, while the act has exercised a depressing and sinister influence upon the prosperity and reputation of the country. The Negro, ill adapted in his physical constitution to the rigorous climate, with neither experience or competency to the independent management of business affairs, and adverse to them from habits and propensities, soon felt the inappropriateness of his position. He has abandoned his acquisition in disgust and disappointment, or became, in many instances, an impoverished and destitute object of public or private charity. A very considerable proportion of these freeholds have been sold for taxes; others have passed into the hands of speculators, and only two of the large number of original grantees now retain the occupation of the farms, they received. A knowledge of these facts has been widely diffused, and although the whole scheme bore in its inception the inherent elements of failure, the result has been imputed not to these causes, but public opinion has ascribed it to an inhospitable climate and the sterility of the soil. A reluctance, innate to the New England sentiment, to mingle with a colored population, in the social relations of a new coun-

† Notes of T. S. Nash.

try, has been another potent influence that has tended to arrest the course of emigration to this territory.

At one period in the progress of this experiment it seemed probable that the colored freeholders would obtain the political preponderance in the town, when the anomalous spectacle might have been exhibited, of an African supervisor occupying a seat in the county legislature.

The impression prevails, that an ulterior effort, connected with educational purposes, will still be made to promote the occupation of North Elba by an African population. The sentiments of the people of this region are deeply and vehemently opposed to being made the theatre of these social and political experiments.

During the brief operations of the Adirondac works, the affairs of North Elba received a fresh impulse. A road cut through the forest, in the gorges of the mountains, gave to the inhabitants a winter communication with that place, where they enjoyed the advantages of a ready market, at liberal prices, for all their agricultural commodities.

North Elba was separated from Keene, and incorporated in 1849. The population of the town is steadily advancing, and now amounts to more than two hundred souls. Lands may be purchased, which are adapted to farming purposes, for from $1 to $6 per acre, the price being governed by position, and the condition of the premises, in reference to improvements and cultivation.

The martial events, which shed such lustre upon the early annals of this territory, and the thrilling incidents connected with its first colonization, have been succeeded by the humbler and less exciting arts of peace. The paramount interests of industry and agriculture, have given their impress to the present character of the county. I propose to present a hasty narrative of their initiation, progress and existing condition, when I shall have sketched a brief description of the physical geography and the natural history of the region.

PART II.

PHYSICAL GEOGRAPHY.

The physical formation of Essex county unites peculiar and striking characteristics. The beautiful and picturesque are singularly blended with the magnificent and imposing. Exhibitions of impressive grandeur, scarcely transcended by the magnificence of Niagara, are combined with scenes of incomparable sylvan beauty and romantic seclusion. A very large proportion of the county is formed by a general upheaval of its basis, which produced a common elevation of the whole region, except along the shores of Lake Champlain, and some of its tributaries. It may be pronounced, in the aggregate a broken and mountainous territory. Many districts, however, embracing large portions of entire townships, exhibit a very high degree of native fertility and adaptation to tillage.

The surface of these tracts is usually level, or presents gentle and agreeable undulations. Extensive valleys, lying elevated among the mountains, possess the richest soil, formed by the accumulation of ages, from the debris of the higher steeps. Alluvial flats of great extent and natural fertility, spread along the margin of numerous streams, and surround the hidden lakes and ponds in the interior.

The hills and mountains, far up their slopes, often afford a rich and generous soil, yielding the choicest pasture and meadow lands. Although these advantages may mitigate its general character, the country presents a vast surface, rock-bound and inaccessible in its cliffs and heights, and impracticable to cultivation. A large portion of this territory, stamped by nature with ruggedness and

desolation, and closed against the approaches of agriculture, teems with immeasurable wealth in its forests and mines.

Several detached and broken ranges of mountains enter the county from the south. These mountains appear to lose their distinctive peculiarities as a system or general range, and are thrown together in promiscuous, massive groups. Two of these disturbed ranges reach the limits of the county at Ticonderoga. They are not high, but exceedingly abrupt and jagged. One, suddenly terminates at Mount Defiance, and the other subsides into slight eminences in the vicinity of Lake George. Two other ranges, loftier and more important, exhibiting the same dislocated character, traverse the county in nearly parallel tracks. They both terminate in bold and majestic promontories upon Lake Champlain, and spread their lateral projections over the county. These lofty promontories, at some points upon the lake, present a high and nearly perpendicular wall, and at others their huge beetling cliffs impend over the water. These impressive spectacles of mountain scenery are exhibited at Moriah, Willsboro, Westport and Chesterfield.

Peaks occur along the line of these sierras, which in other regions would be regarded as conspicuous landmarks, but here, associated with loftier and more imposing summits, they have neither names nor notoriety. Among the class of secondary mountains within the county are "Pharaoh," in Schroon, "Mount Dix," in North Hudson, and the "Bald-face," in Westport, which attract attention and are admired for their position and formation. In the Adirondac group, situated chiefly in the towns of Keene and Newcomb, a cluster occurs of the loftiest and most remarkable mountains east of the Mississippi. Less elevated than individual summits of the White Hills of New-Hampshire, or the Black Mountain of North Carolina, they far exceed any entire range in the gigantic magnitude of their proportions, and in the grandeur and beauty of their structure. It is extraordinary, that the public should, until so recent a period, have been in comparative ignorance of this remarkable group of mountains, and of the deeply interesting and romantic country they envelop in their mighty folds. They are within forty miles of Lake Champlain, the great avenue of northern commerce, and so familiar to the fashionable tourist. Their highest peaks are visible from Burling-

ton, and the altitude of Mt. Marcy has actually been determined from that point. The idea, however, is inaccurate, that this tract had not been explored until a recent date, or that these mountains were unknown, until a late discovery. All these scenes have been, for many years, familiar to innumerable hunters, pioneers, and surveyors. Most of these prominent summits are visible through a wide territory, (which has been occupied for nearly half a century) not in the obscurity of distance, but in the full exhibition of their majesty and glory.

Mount Marcy, the monarch of these wilds, towers above the surrounding pinnacles, in a beautiful cone, and in one view nearly an acute apex. Ascending above every contiguous object, and peering with this striking formation far upward, no one can contemplate it without recognizing the force and appropriateness of its name, in the energetic and beautiful nomenclature of the Indians. They called the towering mountain, projecting its acute top toward the heavens, "Tahawus," "*The Cloud-splitter.*" The height of this mountain, above tide water, is 5,467 feet. Another eminence, Mount McIntyre, supposed to fall a little below Mount Marcy in altitude, perhaps surpasses it in ponderous magnificence, and presents a more uniform, massive and compact structure. The Dial mountain, Mount Seward, McMartin, Colden, and other peaks unmeasured, of apparently equal if not greater dimensions, mingle in this cluster, and impress a stamp of Alpine grandeur upon the scenery.

A lofty range, known as the "Keene Mountains," presents a peculiar aspect; dark, broken, and frowning. The "White-face Mountain," in the majestic Indian dialect "Waho-partenic," an eminence of 4,855 feet, stands remote from the other groups, and occupies the northern extremity of the huge mountain belt that encircles the town of North Elba. This peak, from its rare and admirable proportions, its bald summit, solitary isolation, and the vast pre-eminence of its height over surrounding objects, is a beautiful and conspicuous landmark, over a wide horizon. A few years since it presented a spectacle of unequaled sublimity. In the heat and drouth of midsummer, the combustible materials upon its summit were fired by accident or design, and during one

whole night the conflagration raged, exhibiting to the gaze of hundreds, almost the splendor and awe of a volcanic eruption, in its wildest vehemence.*

Public sentiment will not ratify the acts of private men, who would obliterate the aboriginal names of the great physical features of this continent, and substitute those of individuals, however eminent their political position or excellent and esteemed their private characters. The Indian nomenclature is pre-eminently rich in its force and euphony, and in the beauty and illustrative appropriateness of its designations. The names they have attached to physical objects, will soon be the only vestiges of their existence. They will leave no other monuments of their former presence upon the land they once possessed, and fondly deemed their own peculiar heritage.

LAKES.

Lake Champlain—In an early part of this report, I glanced at the military aspect and commercial importance of Lake Champlain. The rare and exceeding beauty of its scenery arrests, and delights the observer. On the east it is bounded by an undulating plain, rich in a high and luxuriant culture, whilst beyond this, the horizon is limited by the bold and broken outline of the Green Mountains. On the western border the dark and towering Adirondacs, spread far into the interior, here and there projecting their rugged spurs into the bosom of the lake, and often forming lofty and inaccessible headlands, covered with forests, or exposing bleak and frowning masses of naked rock. The lake ranges in width, from one mile to fifteen miles. It is studded by innumerable islands; some of which are mere rocky projections; others clothed in their native green woods, rest like gems upon the waters, and others, formed by alluvial deposits, are unsurpassed in their native loveliness, or in their exuberant fertility.

The severity of a northern climate, closes the navigation of this lake, no inconsiderable portion of the year. The ice usually forms upon the broadest part about the 1st of February, and remains in an average of years, until near the 1st of April. The navigation is suspended for a longer period, by the ice forming earlier and

* Iddo Osgood, Esq.

remaining later, at each extremity. The lake occasionally remains open the entire winter. The transition from navigation to the transit of the lake upon the ice, is often amazingly sudden, teams having crossed its broadest part, upon the ice the fifth day after it had been passed by a steamer. The ice often attains great thickness. The spectacle, frequently afforded by this vast expanse of icy surface, is singularly beautiful and exhilerating. It furnishes for several weeks the great highway of business and pleasure. Roads diverging from every point, are animate with activity and excitement. Long trains of teams, freighted with the commodities of the country, glide easily over it, whilst the pleasure sleigh bounds along its smooth and crystal field, breaking the stillness by the music of its merry bells. Little danger occurs in the transit of the ice, except in the passage of the cracks or fissures, which starting from the various points and headlands, rend the ice asunder with a sound and concussion like the reverberation of thunder, or the prolonged discharge of ordinance. These fissures entirely separate the ice, and are designed by the wise purposes of Providence to strengthen it, by affording an escape to the pent up air beneath.

The balmy atmosphere and warmer sun of approaching spring, affect and gradually weaken the ice. Travelling on it, then becomes hazardous, and is often attended with great jeopardy and frequent loss of life and property. The inhabitants, residing upon the shores of the lake, are habituated to these perils and familiar to the modes of assistance. On the alarm of accident, they rush to the point of danger, with prompt and efficient zeal, bearing ropes and boards and other requisite articles, and rarely fail to extricate the sufferer.

These and other incidents of exposure and suffering upon the ice, often present scenes of the most painful solicitude and thrilling excitement.*

* An event occurred, several years since, which illustrates many similar catastrophies, and is a touching instance of the intelligence and fidelity of the dog. A stranger, apparently a foreigner, accompanied by a little Spaniel dog, arrived near nightfall at Port Kent, in the midst of a severe storm, and persisted, against every remonstrance, in attempting to cross the ice alone and on foot. At an early hour the next morning, the house where he had stopped, was aroused by the dog, who tried by barking and every demonstration of anxiety to arouse attention and sympathy. Guided by the little animal, who immediately returned to the ice, several

The final "breaking up" of the ice in the spring often affords a scene of intense interest. The evidences are readily recognised, which portend the event. Its surface exhibits several marked and peculiar phases, which indicate the progress of decay. Its usual transparent and brilliant clearness, yields to a dark and clouded aspect. This is succeeded by a soft and snowy color, as the moisture leaves the surface and penetrates the mass. The next stage in its dissolution is exhibited as the body of ice becomes porous and loosing its buoyancy, sinks to the level of the water. Its appearance then is black and portentous, and can scarcely be contemplated without a feeling of awe and dread. The fissures now open and expand. The ice separates into larger bodies, and driven by the winds in immense fields, is broken up, and often piled in huge masses upon the shores where it remains late in the spring, a memorial of the passed empire of winter. At other times, the ice continues nearly entire, until saturated with water, it at once, in a moment as it were, disappears, dissolving into its original element.

In the progress of dissolution of the ice, a singular phenomenon is revealed. The mass at this time, exhibits a combination of an infinitude of parallel crystals or icicles, arranged in a perpendicular formation, and each distinct and perfect, extending from the lower side to the surface, or in other words, from the water to the atmosphere. These particles separate from each other in the process of disintegration.

A day of jubilee and rejoicing succeeds, when these icy fetters are finally broken, and intercourse is restored. The advent of the first steamer of the season, always rejuvenated during the winter, and fresh from the hands of the painter, is hailed at each landing by shoutings and the pealings of artillery.

Interior Lakes and Rivers.—The numerous lakes and gem-like ponds, that stud the surface of the county in such profusion, not only diversify and adorn the scenery, but are the sources of the

persons followed him to near the center of the lake, when he rushed upon an apparent snow drift, and began to dig with the most piteous cries. He soon revealed beneath the wreath of snow the lifeless and frozen remains of the unfortunate master, his courage and sagacity had failed to save. The faithful creature was preserved and cherished as his intelligence and fidelity deserved.—*Col. C. M. Watson.*

vast water power so essential to the industrial interests and prosperity of the county. This water, chiefly arising from springs, is usually cold, clear, and pure. Schroon lake, lying partly in Warren county, is ten miles long and one and a half broad, and is remarkable for its quiet and romantic beauty. A high, precipitous shore encloses it on the east, and on the west a cultivated and delightful tract spreads its fertile fields down to the brink. This lake forms the reservoir to the waters of the upper Hudson. It is already the channel of a valuable trafic, and will become highly important to the rapidly increasing manufacturing business of the district.

Paradox lake is situated in the same valley, and is separated from Schroon lake by a drift or alluvial, of apparently modern formation. Paradox lake occupies the basin of hills that environ it in a gentle ascent, except the narrow passage at its outlet, which is a confluent of the Schroon river and nearly on a level with it. The river, swollen by the mountain torrents, often rises higher than this lake, and pours its waters into the basin, presenting the paradoxical appearance of a stream rushing back upon its fountain head. The lake derives, from this singular fact, its unique but not inappropriate name.

Directly east of Schroon lake, and elevated above it several hundred feet, lies Lake Pharaoh, an important body of water, surrounded by a group of dark and gloomy mountains. In this vicinity cluster numerous ponds, the fountain heads of valuable streams.

The miniature lakes and ponds, which repose in almost every valley among the Adirondacs, and form the head springs of the Hudson, possess indescribable romance and beauty. Now they are embraced and hidden by dense and unbroken forests, and now encompassed by lofty mountains, whose inaccessible precipices descend into their waters by a nearly vertical wall, and now slumbering in the bosom of some lovely and picturesque nook, their mirrored surface, reflecting this varied scenery, is alone broken by the leaping of a trout, the gambols of a deer, or, at far intervals, by the oar of the solitary hunter. These gentle and sub-

duing beauties of nature, combined with the awe-imposing and thrilling grandeur of their mountain spectacles, with the pure, invigorating and health-inspiring air which envelopes them, must render these solitudes among the most desirable and attractive resorts, to the philosopher, the invalid and the tourist of pleasure.

Lake Placid, situated principally in North Elba, just touches that beautiful valley, in the incomparable landscape of which it forms a conspicuous and very essential feature. Its great expanse, its deep and transparent waters, its beautiful proportions, stretching its sinuosities along bold headlands far into the recesses of the mountains, until in the distant view, its waters seem to lave the base of "White face," although in fact separated from it by a rich valley of two miles in width, unite to render Lake Placid, one of the most delightful and attractive objects in this land of loveliness and silence. A small pond connects with the lake, by a narrow channel. This pond has no other inlet or outlet, and is distinguished by a singular circumstance. The water flows for a period of two or three minutes, from the lake into the pond, an interval of a few seconds succeeds, with no apparent motion of the water, after this, for the same time, it flows back again into the lake. This ebbing and flowing is, I believe, perpetual.* Lake Placid is one of the most important heads of the Au Sable river. The manufacturing interest on the line of that stream, has erected at the outlet of the lake, an expensive and ponderous dam. This work, forms the lake into a capacious reservoir, and secures a permanent supply of water at all seasons, to the immense works moved by the Au Sable.

I may here appropriately refer to a fact of some philosophical interest and great practical importance. In the progress of my survey, I have observed, in repeated instances, the ruins of mills and dams, which in the early occupation of the county had ample water power, not a vestige of which now remains, but a deep and worn ravine, that once formed its channel. As the progress of agricultural and manufacturing improvements, before which forests are levelled, the country opened, and the earth exposed to the influence of the sun and atmosphere, advances, springs and

*T. L. Nash.

streams will be dried up, and it will become imperatively necessary to adopt artificial means to control and preserve the water power of this county.

Lake Placid is near, but does not unite with that system of lakes and rivers which indicate the track, and will hereafter constitute the basis of an extensive and valuable inland navigation. I propose to recur again to this highly important and interesting topic.

RIVERS.

The elevated and extended highlands of Essex county, naturally form the great water shed of an extended territory. In their recesses, the sources of the Hudson almost mingle with the waters that flow into Champlain and the tributaries of the St. Lawrence. A rivulet gurgling towards the Hudson, flows from one extremity of the Indian Pass, and a branch of the Au Sable from the opposite. A pond, lying amid the rocks, hundreds of feet above the pass, discharges its waters into a confluent of the St. Lawrence. The streams of a district, like Essex county, broken and mountainous, will be numerous, but turbulent and precipitous. These characteristics are eminently useful in the aspect of a manufacturing interest. Wherever the demands of business require water power in the county, it exists or can be at once created.

The tributaries of the Hudson, traverse every section of the southwestern portion of the county, and afford illimitable facilities to various mechanical and other industrial occupations. Putnam's creek, formed by the lakes and ponds in the mountains of the interior, courses a distance of twenty miles, supplying the power to numerous works, and enters the lake at Crown Point. The Boquet, interlaces by its numerous branches, the central portion of the county, and affording, in a course of forty-five miles, unnumbered water privileges, discharges into the lake at Willsboro. Several of the most extensive and valuable manufacturing works in the county, are established upon this stream. The Boquet was formerly navigable to the falls, a distance of three miles, by the largest vessels upon the lake. Its channel, now changed and obstructed, only admits, at favorable periods of the year, the lightest crafts.

Lake George penetrates Essex county several miles, and discharges through an outlet of about three miles and a half in length, into Lake Champlain, by a strong, deep, and equable stream, which is navigable to the lower falls. This stream in its course from Lake George to the falls, forms a most extraordinary water power, in some peculiarities, without a parallel. It discharges, per second, a volume of water, exceeding 400 feet, along a natural canal of one mile and a half in length, making chiefly by a gradual descent, a fall of 220 feet. Through almost its whole course, water wheels, connected with machinery, may be dropped from its elevated rocky banks, into the stream, and propelled almost without any artificial arrangement. The sloping banks of Lake George, form an immense receptacle where the excess of water is accumulated, and gradually discharges. Hence, no freshets can endanger the works upon its outlet, but a uniform and permanent supply of water is secured at all seasons, and under all circumstances. This stream rarely varies three feet from its ordinary level. The warmth of the water, and the rapidity of the current, prevents every obstruction from ice to the wheel. The water may be diffused laterally, and its power multiplied to any extent. The great and rare purity of the water, renders it particularly adapted to those manufactories which require dying, bleaching, and printing facilities. In combination with all these singular advantages, this position commands the commercial thoroughfare formed by the lakes; it may reach the immense forests extending far into the interior; spreading upon each side of Lake George, it has, within its own environs, a rich and abundant mineral region, and has near and easy access to the vast iron deposits of the Moriah district.

Such harmony in its arrangements, so great and remarkable advantages in the bounties of Providence, are rarely combined. The utilitarian spirit of the age, the interests of business and enterprise, would long since have converted these neglected privileges into elements of prosperity and wealth; but the blight of foreign ownership has paralysed those high bounties. The cupidity or grossly mistaken and pernicious policy of these proprietors has imposed terms so exacting, as to repel every purpose of an adequate occupation of these advantages.

The two principal branches of the Au Sable, nearly equal in size and importance, rise principally in the western part of Essex county, and by their wide spread and multifarious confluents, drain a territory of about eight hundred square miles. They unite at the Au Sable Forks, and roll along the Au Sable Valley, a motive power that impels more varied and extensive industrial pursuits, than almost any other stream upon the continent of equal capacity and extent. The river Saranac penetrates this county, from Franklin, near the line of North Elba and St. Armand, and crossing the latter diagonally, enters Clinton county. Gliding along high level banks, with scarcely a perceptible current, it exhibits the form and aspect of an artificial canal. It is navigable in Essex county, a distance of about fifteen miles, by small boats; and probably by slight improvements, may be adapted to the passage of the smaller class of screw-steamers.

Natural Curiosities.

Indian Pass.—The mighty convulsions which have upheaved the vast mountains of this region, or rent asunder the barriers that enclosed the seas, which washed their cliffs, have left impressive vestiges of their power, in the striking natural phenomena spread over the country. None of them afford more wonderful exhibitions of those terrific agencies, or more imposing beauty and magnificence, than a remarkable gorge, known as the "*Indian Pass*," in the impressive aboriginal "Otneyarh," the "Stonish Giants." It occupies a narrow ravine, formed by a rapid acclivity of Mount McMartin on one side, rising at an angle of 45°, and on the opposite, by the dark naked wall of a vertical precipice, towering to an altitude of 800 to 1,200 feet from its base, and extending nearly a mile in length. The base itself is elevated about 2,500 feet. The deep and appalling gorge is strewn and probably occupied for several hundred feet, with gigantic fragments hurled into it from the impending cliffs, by some potent agency. The elements still advance the process. So exact and wonderful is the stupendous masonry of this bulwark, that it seems, could human nerve allow the effort, a stone dropped from the summit, might reach the base without striking an impediment. The pencil cannot portray, nor language describe, the full grandeur and sublimity of this spectacle. The deep seclusion,

the wild solitude of the place, awe and impress. Many miles from human habitation, nature here reigns in her primitive silence and repose. The eagles form their eyries amid these inaccessible cliffs, and seem like some humble bird as they hover over the deep abyss. The heavy forests that clothe the steeps of Mc Martin, and shroud the broken and confused masses of rock in the gorge, add to the gloom and solemnity of these dark recesses. A tiny rivulet just starting from its birthplace amid these solitudes, chafes and frets along its rocky passage, in its course to the Hudson.

The "*Wilmington Notch.*"—The western branch of the Au Sable breaks through its mountain barrier, in a scene almost as thrilling and impressive. The river compressed in a narrow passage of a few feet, becomes here an impetuous torrent, foams and dashes along the base of a precipitous wall, formed by the Whiteface Mountain, which towers above it, in nearly a perpendicular ascent of thousands of feet, whilst on the other side it almost reaches the abrupt, naked and rugged craggs, of another lofty precipice. Bursting through this obstacle, it leaps into an abyss of more than an hundred feet in depth, so dark and impervious from mantling trees and impending rocks, that the eye cannot reach its hidden mazes. The accomplishment of a projected road, designed to lead through this pass, will render this remarkable spot accessible to the tourist; and I can imagine no scene more attractive by its wild and romantic beauty, or its stern and appalling grandeur. The whole course of the Au Sable and its branches presents a series of falls, cascades and rapids, which, whilst they adorn and animate the scenery, afford innumerable sites of water power, rarely exceeded in capacity and position.

"*Walled banks of the Au Sable.*"—The passage of the Au Sable river, along its lofty and perpendicular banks and through the chasm at the "high bridge" is more familiar to the public mind, than most of the striking and picturesque features in the romantic and interesting scenery of that stream. The continued and gradual force of the current, aided perhaps by some vast effort of nature, has formed a passage of the river through the deep layers of sandstone rock, which are boldly developed above the

village of Keeseville, and form the embankment of the river, until it reaches the quiet basin below the high bridge. In the vicinity of Keeseville, the passage of the stream is through a wall upon either side of fifty feet in height; leaving this, it glides gently along a low valley, until suddenly precipitated over a precipice, that creates a fall of singular beauty. Foaming and surging from this point, over a rocky bed, until it reaches the village of Birmingham, it there abruptly leaps into a dark, deep chasm of sixty feet. A bridge, with one abutment setting upon a rock that divides the stream, crosses the river at the head of this fall. This bridge is perpetually enveloped in a thick cloud of spray and mist. In winter, the frost work encrusts the rock and trees, with the most gorgeous fabrics, myriads of columns and arches and icy diamonds and stalactites, glitter in the sun beams. In the sunshine a brilliant rainbow, spreads its radiant arc over this deep abyss. All these elements, rare in their combination, shed upon this scene an effect inexpressibly wild, picturesque and beautiful. The river plunges from the latter precipice, amid the embrasures of the vast gulf, in which for nearly a mile it is nearly hidden, to observation from above. It pours a wild torrent, now along a natural canal, formed in the rocks in almost perfect and exact courses, and now darts madly down a precipice. The wall rises in a vertical face upon each side from seventy five to one hundred and fifty feet, whilst the width of the chasm rarely exceeds thirty feet, and at several points the stupendous masonry of the opposite walls approaches within eight or ten feet. Lateral fissures deep and narrow, project from the main ravine at nearly right angles. The abyss is reached through one of these crevices by a stair-way descending to the water by 212 steps. The entire mass of these walls is formed of laminæ of sandstone rock, laid in regular and precise structure almost rivaling the most accurate mason work. The pines and cedars starting from the apertures of the wall, spread a canopy over the gulf. The instrumentality, which has produced this wonderful work, is a problem that presents a wide scope for interesting, but unsatisfactory speculation.

A report of the State Geologists asserts, " that near the bottom of the fissure at the 'high bridge' and through an extent of 70 feet, numerous specimens of a small bivalvular molusca or lingulæ" are

discovered, and "that ripple marks appear at the depth of 70 or 80 feet."

"*Split rock.*"—Travellers in passing through Lake Champlain, observe in the town of Essex, a remarkable point, known to the French as "Rocher fendu" and to the English as "Split rock." It contains about an half acre of land, and rising thirty feet above the water, in a bold, precipitous front, is separated from the promontory by a fissure of ten feet in width. Its slope and position, has created the belief, that it has been detached from the adjacent headland by its own weight, and in some shock of nature, although it has probably been separated in the gradual attrition of the earth and disintegrating rocks, by the action of the elements. It is a striking and interesting formation. Guide books and some "pictorial histories" of higher pretensions, describe an abyss of five hundred feet in depth, dividing the rock from the promontory. I visited it, last antumn and walked through the fissure, two feet above the level of the lake.

Near Port Kendall in Chesterfield, another of these remarkable phenomena occurs, to which frequent allusion has been made. The outlet of several ponds upon these highlands, unite in a stream which forms at this place, a very superior water power, directly upon the margin of Lake Champlain. The water rushes a distance of 40 or 50 rods above the fall, through a chasm, which appears to have been opened by some mighty physical convulsion. It presents a gulf 60 or 70 feet wide, with a depth of 30 or 40 feet. At the extremity of this passage the stream plunges into the lake over a precipice of about 40 feet.*

* Levi Higby, Esq.

PART III

NATURAL HISTORY—ANIMALS.

Champlain, and the early explorers of the environs of Lake Champlain, allude to the abundance and variety of the game and wild animals found in that region. The reminiscences of the living, recall the prevalence, in vast numbers of these animals, at their first settlement of the county. Fearful legends are still rife of exposures of the original settlers, and their terrific encounters with the panther, the bear and wolf.

The moose is now occasionally discovered in the recesses of the interior wilderness. The panther and wolf still prowl in these wilds, but rarely, and by solitary individuals. The small black bear exists in small numbers among the fastnesses of the Adirondacs, but are seldom seen in the more inhabited sections of the county.* The bear, wolf and fox, in the early occupation of the county, committed the most destructive depredations upon the flocks of the pioneers. They literally infested and occupied the forest, and by their great prevalence seriously retarded and embarrassed the introduction of sheep. The howling of wolves around the solitary cabins of the settlers, is described as having been most appalling. In the language of an aged pioneer,† "the deer, fifty years ago, were more abundant in our fields than sheep." Venison was then the cheapest food of the settler, and at different periods, their almost exclusive dependence. A bear cub was esteemed as delicate and luscious as the fattest lamb. Deer still abound in the interior solitudes, and are annually destroyed in

* Two panthers and a large bear were taken in North Elba, about the time of my examination of that town.

† Mr. Leavitt, Chesterfield.

vast numbers, in the mere wanton and brutal instincts of slaughter. Sometimes expelled from their retreats by the attacks of wolves, their ferocious foe, they appear in the older settlements, and in their extreme terror, occasionally dash into a village; but only to find man as merciless as the savage beast. Thus, torn and devoured by wolves; chased by dogs, and overtaken when their sharp and tiny hoofs penetrate the crust of snows, and they helplessly flounder in their depths; hunted by torch light, and pursued in the lakes and ponds of their native wilds, this beautiful, timid and gentle creature, now affording so much beauty and animation to these forests, and such luxury to the table of even our metropolitan epicures, must soon be totally extirpated.

The beaver was found in great abundance throughout the region, by the first occupants. They no longer exist, it is believed, in the territory of Essex county. The skeleton of probably the last patriarch of the race is still preserved. Numerous vestiges exist of their former habitations. The evidences remain throughout the county, of their wonderful architectural works, and of the amazing sagacity that approached human intelligence. The skill with which the beaver selected the position of his dam, the untiring industry and great vigor exhibited in prosecuting his work, the exactness of its capacity to the required object, and the great beauty of its structure, excite the deepest admiration and wonder. The water obstructed by these dams flowed over extensive flats, destroying the trees and vegetation which had flourished upon them. These were carefully removed by the beaver, as they decayed, leaving the surface as clear and unobstructed as if the work had been accomplished by the nicest labor of human industry. These clearings were ultimately occupied by a spontaneous growth of natural grasses. The "Beaver Meadows" of the county, formed by this process, were of incalculable benefit to the early settlers, preparing for many of them, in advance, an abundant supply of excellent fodder.

The hunter who penetrates deeply into the solitudes, beyond the western limits of this county, still finds the moose in considerable abundance.* Individuals occasionally appear among the

*A. Ralph.

Adirondacs. A solitary bull or a cow and calf, usually selects in autumn a hill or spur of mountains, where abounds the mountain ash and striped maple, his choicest food. Here he hibernates in what the hunter terms his "yard." As the snows deepen, he industriously keeps open the paths leading to the various sections of his domain. He uniformly traverses the same route, and thus preserves a beaten track in the deepest snows of winter. In this seclusion he passes the season, feeding upon the tender branches of his favorite shrubs, until spring returns, and the voice of nature invokes him to seek new companions. During the summer they frequent the vicinity of ponds and marshes, feeding upon aquatic plants. The roots of the pond lily they greedily devour.

The pursuit of the moose, is among the most animating and attractive sports of the huntsman. The senses of this animal are supposed to be peculiarly acute. He discovers afar off the approach of danger, and breaks from his covert and flies with incredible celerity. His stately horns thrown back upon his shoulders, his nose projecting, and with the gate and action of a fast trotting horse, he dashes amid the forests, over mountains and through morasses, with a speed that defies pursuit, unless the crust of snow yields to his enormous bulk, when he is readily overtaken. Although naturally a timid animal, he then turns at bay, and with immense power and indomitable courage faces his foes, and woe betide the hunter or dog who falls within the reach of his horns, or the trampling of his hoofs. He is then the very symbol of savage ferocity. His aspect is terrific; his eyes glare, his mane erect, every hair, long and protruding, seems to expand and become animate. His defiant roar resounds among the mountains; he defends himself to the last throe with unyielding energy. The meat of the moose is considered a choice and rare delicacy.

The fox and the muskrat are abundant, and with the minx and martin, are yet pursued for their pelages. The squirrel, in most of its varieties, exist in great numbers. Small colonies of the flying squirrel are found in some localities. Its singular construction and great beauty render it an object of much interest. A peculiar incapacity alike for defence and escape, makes it the

victim of innumerable enemies. A remarkable fact in natural history is observed in relation to these animals, and particularly of the common red squirrel. A district of country, which has been nearly exempt from their presence, is suddenly thronged by innumerable multitudes. Every tree and bush and fence appears alive with them, until they at once and as mysteriously disappear. This circumstance affords undoubted evidence of the emigration of the squirrel, but to what extent the habit prevails is unknown. Popular opinion assumes, that they traverse Lake Champlain in these progresses. The autumn of 1851 afforded one of these periodical invasions of Essex county. It is well authenticated, that the Red squirrel was constantly seen in the widest parts of the lake, far out from land, swimming towards the shore, as if familiar with the service; their heads above water, and their bushy tails erect and expanded, and apparently spread to the breeze. Reaching land, they stopped for a moment, and relieving their active and vigorous little bodies from the water, by an energetic shake or two, they bounded into the woods, as light and free as if they had made no extraordinary effort.

The prevalence of these larger animals, and the abundance of fish in the remote lakes, have combined to form in this region, and to cherish a class of men, unknown to more refined and cultivated spheres. They are not numerous, but constitute a very interesting, peculiar and distinctive race. Many a prototype of "Leather Stockings" wanders amid these mountains and lakes, with equal artlessness and simplicity of character, and with the same bold daring and energy of spirit. They possess dwellings and farms, but these are subordinate interests. Their hearts and habits are in the wilderness; they traverse it with almost equal facility by day or night, by the guidance of the sun, or enveloped in mist. They penetrate, alone, into the deepest recesses of the mountains, and in the pursuits of this fascinating life, spend days and even weeks in utter solitude and seclusion. Exercising the instincts of the Indian, they are never bewildered in the mazes of the forest. Some mossy tree, a twig bent or broken months before, affords a certain clue to their position. They trace the game with unerring precision; their rifles never fail. Their tales of conflicts with savage beasts, and hair-breadth escapes from forest dangers, told

in unpretending and perfect truthfulness, and in their own peculiar style, in simple and graphic language, often exhibit incidents of the most thrilling and agitating scenes. Except in the savage warfare of Boon, the lives of these men combine the exciting and romantic events of his career.

I have attempted thus to present a faint portraiture of these denizens of a border life. Occupying the verge of civilization, the race of the hunter will soon be extinguished in its advance, and like the red man, in whose character and habits he so strongly participates, his trace will be lost, or he will be recalled only in local history, or shadowy reminiscences.

Fish.—Lake Champlain embraces most of the species of fish, usually found in fresh water lakes. Several varieties, formerly abundant in these waters, are now rarely found or have totally disappeared. The excellent work of Professor Thompson, comprehends so minute and ample a description of the fish of Lake Champlain, that I propose merely to glance at the subject. Champlain, whose veracity, researches always vindicate, speaks of a remarkable fish, which many have supposed to be fabulous. Alluding to other fish he continues "among the rest, there is one called by the Indians "Chaousarou," of divers length. The largest I was informed by the people, are of eight and ten feet, I saw one of five feet, as thick as a thigh, with a head as big as two fists, with jaws two feet and a half long, and a double set of very long and dangerous teeth. The form of the body resembles that of the pike and is armed with scales, that the thrust of a poniard cannot pierce, and is of a silver grey colour. The point of the snout is like that of a hog."* Professor Thompson believes the original of this description to have been the "Bill-fish," Lepirostrus oxyurus, a fish still existing in the lake, but rarely taken. Prof. Agassis appears to have found traces of the same fish in the upper lakes. The Maskalongè, to which the fish of Champlain bears a slight analogy, and supposed by some naturalists to be an enormous growth of the pickerel, frequents some sections of the lake and often attains the weight of 30 and 40 pounds.

The early settlers of the valley of Lake Champlain, found the streams upon both sides filled with Salmon. They were very

* Documentary History.

large, and among the most delicate and luscious of all fish. At that period they were abundant, and so powerful and bold, as to be taken with great ease and in immense quantities. A record exists of 500 having been killed in the Boquet in one afternoon, and as late as 1823, about 1500 lbs. of salmon were taken by a single haul of a seine, near Port Kendall.* They have been occasionally found within the last twenty years, in some of the most rapid streams, but have now totally disappeared. The secluded haunts they loved, have been invaded; dams have impeded their wonted routes; the filth of occupied streams, has disturbed their cleanly habits, or the clangor of steam boats and machinery has alarmed their fears. Each of these causes, is assigned as a circumstance that has deprived the country of an important article of food and a choice luxury. The subject is not unworthy the inquiry and investigation of the philosopher of nature.

As the Salmon have disappeared, other fish of excellent qualities, have become more abundant. The lake shad, identical it is believed with the white-fish of Michigan, are yearly becoming more common in Lake Champlain and in some parts of it, are already taken by seines in large quantities. When the habits and haunts of this fish are better understood, their pursuit will probably become an important branch of industry.

In early spring, when the rising water has formed an open space between the shore and the ice, the shad and indeed all the larger fish of the lake are pursued with keen avidity, with the spear and by torchlight. This very exciting and pleasant sport occurs in the season, in which the fish seek the estuaries and the shallow water along the shores. In a calm night (and if dark more certain the success,) and in silence, the boat impelled by a single paddle glides quietly through the water, bearing an iron jack at the bow, which contains a bright flame, shedding an illumination far in advance. The spearsman stands behind the light, with full opportunity of seeing the fish, which sleeping quietly or attracted by the gleamings of the fire, lies unconscious of danger and is easily approached and speared. The whole course of the lake at this season, presents a most brilliant and animated aspect, illuminated and glowing with hundreds

*Levi Higby, Esq.

of these fires. The smelt, a small but very fine fish, of marine origin and migratory habits, have recently appeared in the lake and are taken through the ice in great quantities. A species of sturgeon of a considerable size, is frequently caught in seines. Varieties of the bass and pike, are among the most valuable fish, and are taken in great numbers. Many of the lake fish are highly esteemed, and secured in ice, are exported by railroads to the southern cities and watering places, where they command exorbitant prices.

The fisheries of Lake Champlain, and the interior waters of its vicinity, fostered by the existing facilities of access to markets, and which will continually augment, must rapidly acquire great importance and value. The fish of the lake afforded to the early settlers of the valley, (who were often in their isolated position, subjected to serious destitution,) an easy and reliable resource.

Trolling is a favorite and highly exciting sport of the amateur fishermen upon these waters. This mode is adapted to deep water, and is conducted by towing the line some distance behind the boat, in a sea somewhat agitated. Fish, of extraordinary dimensions, are thus frequently taken in large numbers.

Fishing by seines and nets, is much and successfully used in the lakes and more important streams. Several varieties of the most delicate and choice trout, occur in great profusion, in most of the innumerable ponds and lakes which are scattered among the forests and mountains of the interior. The salmon trout is peculiarly distinguished for the great size it attains, and the superior delicacy and excellence of its qualities.

No country offers to the sportsman more delightful and diversified attractions, than this region of lakes and ponds. It is deeply to be deplored, that the same barbarous and ruthless improvidence that is depopulating, with such rapidity, the forests of deer, is hastening the extinction of the trout in these waters. They are not only pursued in utter wantonness, and in the passion of destruction at the legitimate seasons, but they are mercilessly followed by the net, the fly and the spear, to their spawning bed, where, in the extinction of one life, the embryo of millions is

annihilated. Laws are plenary in their stringency and severity, but are not adequately enforced. Even now, in many lakes the most exposed to such ravages, these fish are nearly extirpated.

The deep injury which results from this barbarism, is partially remedied, by the introduction, into several of these lakes, of other varieties of fish, more prolific in their nature or less exposed by their cautious habits, to these depredations. The pickerel of Lake Champlain, ranks among the inferior classes of the fish of that lake; but when transferred to the cold and clear spring waters of the mountain lakes, and to the indulgence of novel and abundant food, its whole properties become changed. It is then as hard fleshed and high flavored, and almost as delicate as the salmon trout. By their vast fecundity and rapid growth, they throng in an incredibly short period, the waters into which they are introduced, and every contiguous stream.

A striking and very curious difference occurs in the character of the fish occupying lakes which lie in close proximity. One body of water, in its primitive condition, is filled to exuberance with the choicest trout; whilst another, situated in the same lofty valley, fed by the same mountain springs, and mingling its waters in the same stream with the former, is destitute of every variety of fish, except the hardier and coarser kinds. At periods, when these latter lakes are extremely low, myriads of the dead bodies of the fish which occupy them, are found floating upon the surface of the water. These facts, well established, attracted my attention as interesting in the physiology of these creatures, and an important feature in Natural History. The result of my examinations of the subject, is conclusive to my mind, that this effect is produced by foreign and noxious substances impregnating the waters. On inspection, I discovered in every instance, where the phenomenon occurs, the presence of native copperas, other sulphates, and incidentally arsenic largely developed in deposits within the surging of the water, or in its immediate vicinity.

Forests.—The forest of this region afforded to the early settler a ready and available occupation, and it still remains a most important element in the business and prosperity of the country. When the wilderness was penetrated, and the forest fell before

the woodman's axe, in most parts of the country, he collected the bodies of the trees into log heaps, reduced them to ashes, and with the simple chemistry of the woods, and in the rude laboratory that necessity had invented, manufactured them into pot-ashes. This commodity commanded a prompt and high price in the Canadian markets, and was received by the local merchant in exchange for merchandise and provisions required by the settler.

The beauty and magnificence of the forests upon the islands and shores of Lake Champlain, excited the admiration of its discoverer. His description of the scenery in this particular, evinces the singular accuracy which characterises his entire work. He speaks of "the quantity of vines, handsomer than any I ever saw." The wild grape is still found upon these islands, and upon the mainland, in the greatest profusion, and in numerous varieties of color and flavor. They spread their tendrils far and wide, often overtopping the loftiest trees in their luxuriance and beauty, and forming barriers in their tangled branches, impervious to man or beast. In the month of July, when Champlain first visited the lake, he could only see and admire the splendor of the vegetable growth, without being able to judge of the quality of the fruit. Amid the numerous varieties of the grape, indigenous to this district, investigation would, doubtless, detect species, from which skilful culture might produce fruit, equal in every desirable quality to the Isabella or Catawba. The wild plum and the thorn apple, grow in great profusion. They prove well adapted as stocks for engrafting. I saw, at Crown Point, the engrafted pear, flourishing in great vigor upon the latter.

The shag bark hickory, the hazle, the butternut and the chest nut, now rarely found, but formerly very common, are indigenous to the county. The various species of the maple, birch, beech, elms and oaks, are all native of these woodlands, and often attain in the primitive forest, a magnificent growth. The white cedar of great beauty and size, abound in the swamps, and often appear in large numbers on the uplands. I noticed them, far up on the acclivities of the Adirondacs, of immense proportions, but observed, and was assured that the fact was uniform, that, although beautiful in their exterior appearance, they were defective and

hollow at the core. The red cedar was discovered at the first occupation of the country, but is now nearly extirpated. Several varieties of the maple and birches, the black walnut, the black cherry and butternut, often stately and splendid trees, are highly valued in the arts and manufactures, and are exported in considerable quantities for these purposes. The Oaks (particularly the white oak,) were formerly of great importance, and still continue to a considerable extent, as articles of exportation, at one period, to Canada, but now to the southern markets. The larch or hackmatack, is abundant and highly valuable. This timber, with the cedar and oak, afford most excellent material in ship building. The Juniper, flourishes in great abundance in many sections of the county, indicating however by its presence a thin and sterile soil. It spreads, a few inches elevated above the earth, a thick and perfect umbel, often several feet in diameter, mantled by a deep and rich green foliage. Standing in solitary plants or in clusters, it imparts an unique and highly ornamental feature to the scenery.

The product of wood, in the primitive and vigorous forest, is vast; upon exuberant soils, often exceeding one hundred cords to the acre, and among the rocks and broken acclivities, seldom yielding less than twenty cords. Within an area of several miles around manufacturing works, the value of the wood, standing, ranges from twenty-five cents to one dollar and a quarter the cord, controlled in its price by its quality and position. This estimate refers to localities where the advantages of transportation authorise the erection of manufactories, and not to regions more remote and inaccessible. Such districts are happily rare in the county, and are rapidly diminishing before the progress of improving facilities of intercourse. The great increase of steamers upon Lake Champlain, in addition to the consumption of the manufactories, has immensely augmented the demand of wood. The fuel for steamboats, formerly required, embraced evergreen timber alone, it now extends to every variety of wood. The cutting and preparing steamboat wood affords constant and useful occupation to the laboring classes during the winter, in the vicinity of the lake, and profitably employs at home the teams of the neighboring farmers, during the same season, in

transporting it to the deposits on the shores of the lake. A large amount of funds is thus annually diffused through all classes of the community by the labors of usually an unpropitious and idle season. The quantity of wood in Essex county, consumed for manufacturing purposes, is immense, and can only be computed by a rough approximation. It probably should be estimated by hundreds of thousands of cords. In extensive districts of the county where the wood has been cut exclusively for coaling, and the land is not required for agricultural pursuits, a second spontaneous growth rapidly shoots up, soon mantling the earth with a luxuriant product, which in the term of fifteen or twenty years, yields a heavy burthen of wood and timber. This growth rarely contains plants of the original forest, but is usually composed of trees of a totally dissimilar character. Pine is usually succeeded by hardwood, and the site of a forest of the latter is occupied by evergreens. Different sections of the county produce in this aspect, irregular and various results. The aspen, yellow poplar, white birch, and oaks, generally succeed the pines; but in the vicinity of the Adirondac works, the small red cherry is almost the exclusive second growth succeeding the stately hard wood forests. The dry and loamy plains contiguous to the Elba works, of a past generation, which were cut over to supply them with fuel, are now clothed with forests of spruce. The latter fact is remarkable and worthy of reflection, as the habits and peculiarities of the spruce in its natural position, adapt it to a totally different soil. This recuperation of the woodland, which nature thus bountifully provides, will in connection with the waste and broken territory, afford, by judicious economy and management, a certain and permanent supply of fuel, to all the purposes of the arts for many ages.

I observed in my investigations relative to this second growth, circumstances that excited my attention, and which I deem entitled to consideration. In the fastnesses of the Adirondacs I perceived entire groves of the young cherry trees, loaded with a black excrescence, similar in appearance to the disease which has been so destructive in our plum orchards. In other sections of the county, I noticed large tracts of the black cherry and birch, dead and dying, and presenting in their blackened and blasted

bark, the aspect of the pear and apple trees which had been visited by the destroying fire blight. If, as I conjecture, these diseases are identical with those known to our gardens, (their results are certainly very analogous,) does not the fact open an interesting field for the researches of science, as to their origin, causes, and operations.

The chestnut groves, which so beautifully adorn some of the northern towns of Warren county, approach, but do not enter the confines of Essex. The sweet walnut is, however, widely scattered over various sections of the county, and flourishes in great profusion and beauty, in the lovely tract that spreads from the cliffs of Lake George to Champlain. When the early frosts of autumn have opened the husks, and their luscious treasures are poured upon the earth, the jocund, shouting, joyous groups of nutting children, which gather beneath their boughs, communicate to the landscape a most primitive and pastoral scene.

Spreading from the warm soil that borders Champlain, to the Alpine summits of the Adirondacs, where the rigors of the frigid zone are stamped upon the climate, the soil of Essex county, naturally imparts a great diversity to its botanical productions. There is nothing however, so distinct or novel, as necessarily to require notice in a work of this character. The subject of the natural grasses and nutritive plants, I propose to discuss in a subsequent department of this report. The same remark applies to the ornithology and entomology of the county. The birds, insects, worms and bugs are those familiar to the public mind, to the world of science and the practical farmer and gardener.

Reptiles—The rattle-snake, formerly infested several localities in this county, in horrid profusion. In the early stages of its settlement, they were seen in the vicinity of their dens, basking in groups upon the rocks, in the sun beams. A mountain was pointed out to me, near Lake George, where the legend says, eight hundred were killed in one season. These reptiles are now almost extirpated. No other snake of a venomous character is found in the county.

CLIMATE AND WINDS.

Grave senators, who have pronounced northern New-York, the Siberian district of America, exhibit more fancy on the subject, than intelligence. No climate is more salubrious, or better calculated to secure enjoyment and comfort to man. The atmosphere clear, elastic and invigorating, bears no miasmatic exhalations. The winters of this climate are often severe but equable. The summers are warm, and yield a rapid impulse to vegetation, that promotes an early maturity. The heat of summer is modified, by the cool and exhilarating breezes of the lakes and mountains. A signal difference occurs in the climate and seasons of the territory bordering upon the shores of Lake Champlain and that of a few miles in the interior. The influence of that large expanse of fresh water mitigates equally the rigors of the winter and the heats of summer. The territory bordering upon the lake has usually an exemption of at least two weeks from the late frosts of the spring and the early frosts of autumn, to which the interior is exposed. The fact is well authenticated, although its philosophy may not be so readily explained, that premature frosts often occur in the meridian of Pennsylvania, when the valleys of Essex county are totally free from its effects. The snow accumulates among the mountains and in the higher valleys to the depth of several feet, although in most parts of the county, they are less abundant, than in the western or central sections of the State: they remain however longer upon the earth. An excess of snow is a rare event, although the want of it often embarrasses the operations of business.

The absence of snow as well as rain is peculiar to the valley of the Au Sable, and in many seasons, essentially affects its agricultural and manufacturing prosperity. No part of the country is visited more frequently by protracted and blighting droughts than this district. The circumstance is universally remarked, and may satisfactorily be imputed to the influence of the mountains and lake, upon the atmospheric currents.

These aerial currents governed by much the same laws, which control the course of all fluids, are involved in eddies created by the gorges and ravines of the mountains, are arrested by their airy

summits, and often receive a direction from these causes. Clouds not unfrequently, are perceived approaching the valleys, bearing rain and portentous of thunder and lightning, when in a moment their course is changed, and skimming along the acclivities of the mountains, they pour upon them their contents. Hence, in a dry season like the last, when nature elsewhere is parched and seared, the slopes of these mountains smile in verdant and luxuriant beauty. The movement of these atmospheric streams, witnessed from the valleys embosomed by lofty mountains, are often beautiful and sublime exhibitions.

A valued correspondent* furnishes me with several highly interesting facts, illustrative of this subject. The amphitheater of mountains that nearly surround North Elba, is imperfect on the western side, from whence the plateau spreads far into the interior. Volumes of clouds often advance from that direction, until entering within the influence of these currents, they suddenly divide, the dissevered masses passing to the north and south, along the brows of the respective mountains. He describes a scene of singular grandeur and sublimity, that occured at North Elba in 1847, and strikingly elucidates this remarkable influence. On a still and sultry evening of summer, when not a breeze moved the leaf, a dark and heavy bank of clouds, suddenly appeared in the western horizon and gradually approaching, menaced an immediate and violent storm. Whilst gazing upon the advance of the impending tempest, he beheld in a moment the masses rent asunder. One column rushed along the crest of Whiteface, and the other amid pealings of thunder and torrents of rain, careered over the lofty summits of the Adirondacs, whilst in the valley, an instant before threatened by the tornado, all was serene and calm, and the moon and stars beamed softly upon it, through the riven canopy of black and flashing clouds. I introduce these impressive incidents to illustrate the powerful agency which is exerted on the elements, by these lofty pinnacles.

The winds in the vicinity of Lake Champlain are materially modified in their direction by its influence.

*T. L. Nash.

The Aurora borealis, displayed in the longitude of Essex county in transcendant splendor and effulgence, exerts, it is believed, at times a decisive effect upon the course and character of the winds. The exhibition of that phenomenon, is generally if not uniformly succeeded by a prevalence of southerly winds. The duration and severity of the one seems proportionate to the intensity and expansion of the other. May not this fact shed some light on the theories connected with this meteor? An hypothesis of Dr. Franklin, now well sustained, supposes that the desolating tornadoes of the tropics are often produced, by the air rushing into a vacuum, created by the sudden dissolution of masses of clouds, through some electric action. May not the Aurora be formed by an electric influence, which deranging the equilibrium of the atmosphere, in the Arctic region, induces the irruption of this column of air from the south. The prevalent winds of this region, are south, south-west and north-west.

The climate of northern New-York, has, since its discovery, gradually, but very decidedly ameliorated. Champlain speaks of observing the mountains of Vermont, capped with snow, in August. The improvements which have removed the forests, and exposed the earth to the action of the sun, and atmosphere, have eminently tended to promote this amelioration. The winters are pronounced by aged settlers to be at this time, far less rigorous and protracted, than in their early recollections of the country. The depth of snow and the thickness of ice upon Lake Champlain, are progressively diminishing. The rains are now more equally diffused through the mild seasons, and not falling as formerly in periodical and severe tempests.* The autumnal season is the glory of this climate, often lingering late into November, and clothing the forests with its gorgeous and brilliant robes. It is to all nature the most delightful and joyous period of the year, fraught with blessings and pleasure, and bearing the inspirations of health and vigor.

Hardy stock is often turned off by the 1st of April, although the 20th of that month may be regarded as the average period when grazing may be relied upon. The commencement of foddering,

*John Hoffnagle, Esq.

usually ranges with the varieties of stock, from the 15th of November to Christmas. Plowing, commences in a series of years, about the middle of April, and usually terminates in November, although in some seasons it is extended into the last days of the year.

In order to present some illustrations of the climate and seasons, I avail myself of the courtesy of Robert Clark Esq. and the Rev. Zadock Thompson, the eminent Professor of Natural History in the Vermont university. Mr. Clark has favored me with a copy of a meteorological table kept by himself at the Adirondac works, for a term of six months in 1852. Professor Thompson, has also supplied me with a copy of one kept by him during the same period at Burlington, Vermont. The former was made at the highest cultivated point, probably in the State, and the latter at an elevation of about 350 feet above tide water. They afford interesting and useful means of enquiry and comparison. The notes from the diary of Mr. Clark, exhibit the character of the climate, and the progress of the seasons in that elevated position. It is proper to remark that the spring of '52 was unusually cold, backward and inclement.

METEOROLOGICAL OBSERVATIONS

Made at Adirondac, Essex Co., N. Y., Lat. 44°, Long. 2° 53′ east of Washington. Elevation of the barometer above ground, 7 feet, above the ocean, 1,764 feet.

RESULTS FOR MARCH, 1852.

TIME.	THERMOMETER.				BAROMETER.				Prevailing winds.	Average cloudiness in 10ths.
	Average.	Minimum.	Maximum.	Range.	Average corrected height.	Minimum.	Maximum.	Range.		
		4th	14th			23d	4th			
6 A. M.,.	16.93	—17.5	38.8	56.3	28.073	27.482	28.628	1.146	NW.	5.8
		2d	13th			23d	11th			
2 P. M.,.	32.87	13.0	49.8	36.8	28.016	27.327	28.582	1.255	NW.	6.7
		2d	12th			24th	3d			
10 P. M.,	23.67	4.8	43.0	38.2	28.063	27.347	28.648	1.301	N.	6.6
		4th, 6½ A.M.	13th			23d	3d			
Month, ..	24.49	—19.8	49.8	69.6	28.051	27.327	28.648	1.321	NW.	6.4

RESULTS FOR APRIL, 1852.

TIME.	THERMOMETER.				BAROMETER.				Prevailing winds.	Average cloudiness in 10ths.
	Average.	Minimum.	Maximum.	Range.	Average corrected height.	Minimum.	Maximum.	Range.		
		5th	19th			22d	4th			
6 A. M.,.	27.67	11.8	42.8	31.0	27.870	27.245	28.215	0.970	NW.	6.6
		3d	30th			21st	4th			
2 P. M.,.	40.63	30.1	52.3	22.2	27.846	27.184	28.121	0.937	N.&NW.	7.2
		2d	19th			21st	3d			
10 P. M.,.	33.06	23.4	40.9	17.5	27.884	27.244	28.181	0.937	N.	6.3
		5th	30th			21st	4th			
Month, ..	33.78	11.8	52.3	40.5	27.867	27.184	28.215	1.031	N.	6.7

RESULTS FOR MAY, 1852.

TIME.	THERMOMETER.				BAROMETER.				Prevailing winds.	Average cloudiness in 10ths.
	Average.	Minimum.	Maximum.	Range.	Average corrected height.	Minimum.	Maximum.	Range.		
		4th	30th			30th	6th			
6 A. M.,.	38.32	26.4	48.8	22.4	28.124	27.867	28.529	0.662	N.	3.8
		3d	29th			17th	5th			
2 P. M.,.	61.73	35.0	81.5	46.5	28.064	27.763	28.467	0.704	N.&NW.	4.5
		2d	24th			1st	5th			
10 P. M.,.	43.73	33.0	63.0	30.0	28.101	27.355	28.502	1.147	N.	3.4
		4th	29th			1st	6th			
Month, ..	48.02	26.4	81.5	55.1	28.108	27.355	28.529	1.174	N.	3.9

RESULTS FOR JUNE, 1852.

TIME.	THERMOMETER.				BAROMETER.				Prevailing winds.	Average cloudiness in 10ths.
	Average.	Minimum.	Maximum.	Range.	Average corrected height.	Minimum.	Maximum.	Range.		
6 A. M.,.	50.47	1st 32.3	16th 69.3	37.0	28.047	9th 27.347	13th 28.490	1.143	N.	4.4
2 P. M.,.	67.70	10th 47.8	15th 89 8	42.0	28.023	9th 27.713	13th 28.451	0.738	N.	5.5
10 P. M.,.	55.39	10th 37.9	15th 74.8	36.9	28.055	8th 27.670	13th 28.473	0.803	N.	4.4
Month,..	57.88	1st 32:3	15th 89.8	57.5	28.042	9th 27.347	13th 28.490	1.143	N.	5.1

RESULTS FOR JULY, 1852.

TIME.	THERMOMETER.				BAROMETER.				Prevailing winds.	Average cloudiness in 10ths.
	Average.	Minimum.	Maximum.	Range.	Average corrected height.	Minimum.	Maximum	Range.		
6 A. M.,.	57.46	19th 37.8	1st 73.1	35.3	28.158	1st 27.666	19th 28.502	0.836	N.	4.6
2 P. M.,.	75.42	22d 58.0	9th 94.0	36.0	28.122	30th 27.665	19th 28.418	0.753	N.&S.	4.8
10 P. M.,.	59.66	23d 51.0	21st 70.3	19.3	28.156	30th 27.758	19th 28.413	0.655	N.	3.6
Month, ..	64.18	19th 37.8	9th 94.0	56.2	28.145	30th 27.665	19th 28.502	0.837	N.	4.3

RESULTS FOR AUGUST, 1852.

TIME.	THERMOMETER.				BAROMETER.				Prevailing winds.	Average cloudiness in 10ths.
	Average.	Minimum.	Maximum.	Range.	Average corrected height.	Minimum.	Maximum.	Range.		
		12th	24th			27th	22d			
6 A. M.,.	53.56	40.3	64.6	24.3	28.232	27.993	28.483	0.490	N.	5.0
		1st	24th			26th	23d			
2 P. M.,.	71.46	60.3	84.1	23.8	28.194	27.973	28.411	0.438	N.&S.	5.1
		2d	24th			26th	22d			
10 P. M.,.	55.33	46.2	68.1	21.9	28.233	27.978	28.438	0.460	N.	4.2
		12th	24th			26th	22d			
Month, ..	60.63	40.3	84.1	43.8	28.220	27.973	28.483	0.510	N.	4.8

OBSERVATIONS *at Burlington, Vermont, in* 1852.

By Rev. ZADOCK THOMPSON, Professor of Natural History.

1852.	MARCH.			APRIL.			MAY.			JUNE.			JULY.			AUGUST.		
Days.	Therm.	Barom.	Water	Therm.	Barom.	Water	Therm.	Barom.	Water	Therm.	Barom.	Water.	Therm.	Barom.	Water	Therm.	Barom.	Water
	degrees.	inches.		degrees.						degrees.					inches.	degrees.		
1,.....	18.00	29.88	....	36.75	29.61	....	43.25	29.48	0.28	55.75	29.55	....	67.25	29.55	....	62.25	29.67	....
2,.....	9.75	29.81	0.24	34.50	29.62	....	48.50	29.52	....	66.00	29.34	....	63.50	29.25	0.62	60.00	29.78	....
3,.....	5.75	30.27	....	29.25	29.70	....	45.00	29.78	....	65.50	29.29	0.32	58.25	29.44	0.30	62.50	29.70	....
4,.....	10.75	30.21	....	32.50	29 82	....	42.75	30.08	....	56.00	29.58	....	68.25	29.69	....	66.75	29.64	0.22
5,.....	23.00	29.71	0.06	35 00	29.65	....	54.50	30.09	....	51.25	29.70	....	72.00	29.74	....	67.50	29.56	....
6,.....	24.50	29.85	....	36.50	29.42	0.14	61.50	30.04	....	61.00	29.54	....	74.75	29.75	....	65.75	29.61	....
7,.....	25.25	30.02	....	37.50	29.62	....	65.75	29.84	....	59.50	29.41	0.05	78.50	29.77	0.09	67.50	29.60	....
8,.....	26.25	29.87	...	36.75	29.59	....	70.00	29.64	....	65.00	29.44	0.21	81.00	29.75	....	68.00	29.62	0.22
9,.....	38.50	29.38	0.19	39.00	29.48	....	66.00	29.56	....	65.00	29.11	0.92	81.00	29.68	0.19	65.25	29.65	0.13
10,.....	30.75	29.82	....	41.25	29.57	....	56.50	29.70	....	54.00	29.50	0.22	79.25	29.78	....	66.00	29.75	....
11,.....	30.50	29.23	..	40.50	29.61	....	58.25	29.78	....	53.00	29.86	....	79.00	29.71	....	62.50	29.79	....
12,.....	38.75	29.90	....	41.00	29.63	....	57.00	29.77	0.09	59.00	29.98	....	70.00	29.83	....	64.50	29.79	....
13,.....	43.50	29.76	....	38.25	29.61	....	58.00	29.88	....	67.00	30.00	....	74.75	29.74	....	70.25	29.76	....
14,.....	41.25	29.60	0.09	40.50	29.44	....	57.00	29.74	....	76.25	29.94	....	69.75	29.64	1.25	71.00	29.69	....
15,.....	41.00	23.33	0.07	37.00	29.23	0.63	52.50	29.56	....	81.50	29.76	....	67.00	29.84	....	65.75	29.63	0.22
16,.....	34 50	29.64	....	37.50	29.35	0.19	57.00	29.51	0.23	81.00	29.69	....	68.75	29.86	....	60.50	29.89	....
17,.....	33.50	29.68	....	40.25	29.68	....	65.00	29.37	....	72,50	29.64	0.23	69.50	29.67	....	62.75	29.89	....
18,.....	37.00	29.59	0.20	45.25	29.67	....	49.75	29.62	....	70.50	29.47	0.31	61.00	29.81	0.04	70.00	29.72	....
19,.....	25.25	29.79	....	49.00	29.53	....	56.50	29.58	....	63.25	29.54	0.63	65.00	29.98	....	72.25	29.65	....
20,.....	17.00	29.69	....	48.25	29.37	....	50.75	29.58	0.06	64.50	29.51	....	73.25	29.87	....	67.00	29.86	0.07
21,.....	20.50	29.66	....	43.75	28.86	....	54.00	29.75	....	70.25	29.51	....	79.00	29.70	....	70.21	29.94	0.03
22,.....	25.75	29.48	0.03	42.75	28.92	0.07	62.50	29.72	....	66.50	29.32	0.72	81.00	29.55	....	72.00	29.99	....
23,.....	30.25	29.03	....	43.00	29.21	....	67.00	29.69	....	61.50	29.41	....	67.00	29.67	....	73.00	29.98	....
24,.....	28.75	29.07	0.50	36.50	29.51	....	64.00	29.54	....	65.00	29.45	....	64.25	29.71	....	78.00	29.87	....
25,.....	34.50	29.40	....	43.50	29.63	....	53.25	29.65	....	61.00	29.49	1.03	71.00	29.65	....	73.25	29.66	0.29
26,.....	35.00	29.48	....	47.25	29.41	....	47.50	29,71	....	66.25	29.67	....	66.50	29.47	2.11	70.00	29.52	0.15
27,.....	38.50	29.85	....	42.75	29.29	0.12	48.50	29.45	....	67.50	29.65	....	66.25	29.59	0.07	71.00	29.54	....
28,.....	30.50	30.13	....	40.50	29.42	....	61.50	29.54	....	65.50	29.66	0.04	65,75	29.72	....	64.00	29.70	0.08

OBSERVATIONS *at Burlington.*—(CONTINUED.)

1852.	MARCH.			APRIL.			MAY.			JUNE.			JULY.			AUGUST.		
Days.	Therm.	Barom.	Water	Therm.	Barom.	Water	Therm.	Barom.	Water	Therm.	Barom.	Water	Therm.	Barom.	Water	Therm.	Barom.	Water
29,.....	28.50	30.00	0.03	46.25	29.49	....	71.50	29.45	....	72.50	29.56	....	72.25	29.40	0.07	61.25	29.74	0.09
30,.....	24.00	29.93	....	45.50	29.58	....	55.25	29.53	0.05	70.00	29.51	0.08	72.75	29.17	0.22	63.75	29.88	....
31,.....	33.50	29.65	0.51				53.75	29.63	....				63.75	29.39	0.03	60.50	29.87	....
Means, ...	28.53	29.70	1.92	40.27	29.48	1.15	56.58	29.67	0.71	65.13	29.57	4.76	70.70	29.65	4.99	66.98	29.74	1.50
	degrees.	inches.		degrees.	inches.		degrees.	inches.		degrees.	inches.		degrees.	inches.		degrees.	inches.	
Highest,..	49	30.36		58	29.84		85	30.13		97	30.02		93	30.00		90	30.02	
Lowest,...	—8	28.91		21	28.77		32	29.20		39	28.80		48	29.13		47	29.50	
Range, ...	57	1.45		37	1.07		53	0.93		58	1.22		45	0.87		43	52	

REMARKS.—The numbers standing under the headings *Therm.* and *Barom.*, are derived from four daily observations of the Thermometer and Barometer, made at sun rise, 9A. M., 3 P. M. and 9 P. M. The fall of water in May was very much less than in any other May of which we have records. The average quantity for May for the last fifteen years, exceeds three inches. The place of observation is one mile from the shore of Lake Champlain, and 256 feet above it.

REMARK AND RECORD—AT THE ADIRONDAC WORKS.

BY ROBERT CLARK.

1852.

March 1. The instruments from which the observations—the monthly results of which I here present you—were made, are the property of the Smithsonian Institution, of Washington. The thermometer, No. 510, and the barometer, No. 360, both made by Jas. Green, of New-York. The observations were made at the hours of 6 A. M., and 2 and 10 P. M., as established by that institution.

The depth of snow here has averaged nearly four feet all winter, and on some hills of hard wood, reached six and seven feet in depth. It has been reduced at times to a foot, but was immediately piled up again by successive storms.

In testing the thermometer left by Prof. A. Guyot (No. 160, by Jas. Green), on Jan'y 5th it was broken. I sent down to Mr. Green, and on the 9th Feb'y received a new one similar to it, No. 510. The morning of the 18th Feb'y was the coldest we have had since then: the thermometer then stood at 30° below zero. The morning of the 16th Jan'y, however, was the coldest this winter; not having the thermometer at that time, I cannot tell how low it stood, but would judge about 34° below zero.

Birds.—There have been none of the cross bills (*Curvirostra Americana* of Wilson,) here this winter; though last winter they were innumerable, and were here till the end of May.

There has also been very few of the snow bird (*Fringilla Hudsonia* of Wilson,) here this winter.

11. Saw a crow flying northward. Aurora borealis visible.

12. A flock of small birds flew over the village to the north.

20. A large number of these birds are now in the village; I shot one, and found it to be the Snow Bunting (*Emberiza Nivalis* of Wilson).

March 31. Thirty-six and a half inches of snow has fallen this month. There is now in the woods a little over two feet of snow, and nearly as much in the clearings. On the 1st April last year, the snow was entirely off the roads, and there was but little in the woods.

April 26. First swallows seen.

30. There has been but little "sugar" weather this month. On the 8th, 9th, 10th and 11th, sap ran very slowly and but little sugar was made; from 25th to 28th, however, it ran well. There has twenty-five and a half inches of snow fallen this month; there is still in the woods about two feet, though but little in the clearings. Commenced on 26th to pile stumps that were pulled last fall; this is the only farm work done this month.

May 2. Cultivated violet in flower.

3. Sleighing is finished to-day; we have had 177 days of sleighing this last winter, uninterrupted except by fresh storms. An unusually long winter.

7. Spring freshet commenced to-day from the melting of the snows, and without rain.

The frogs "first concert of the season" came off to-day, but proved almost a total failure.

8. Aurora borealis.

9. First appearance of King-fishers. The wild yellow violet in flower. The woods are almost entirely clear of snow, except in sheltered situations and on the mountains.

10. Commenced sowing oats.

11. Lakes Jimmy, Sally and Mary open to-day; Lake Sandford open in narrow parts, but the body of the lake is still closed.

13. Sowing wheat and planting potatoes.

14. Lakes Sandford and Henderson open, they opened last year on 24th April.

18. Aurora borealis.

June 11. New snow on the mountains this morning.

July 19. A few potato tops killed by frost in sheltered spots.

July 26. Commenced haying.
Aug 10. Found ice at the Indian Pass, in the "Ice House," a little cave formed by the debris of the Pass. Aurora borealis to-night.
26. Commenced harvesting oats.
Sept. 6. Cradling wheat.
17. All the potatoes killed by frost.
27. Commenced digging potatoes.

I extract the annexed tables from Thompson's History of Vermont, and although derived from observations taken at Burlington, Vermont, they equally illustrate the advent and progress of the seasons on the western shore of the lake.

TABLE.

YEAR.	Robins seen.	Song sparrows seen.	Barn swallows seen.	Currants blossom.	Red plum blossom.	Plums and cherries blossom.	Crab-apple blossom.	Common apple blossom.
1828, ...	.....	.....	April 28,	May 9,	.....	May 12,	.....	May 16,
1829, ...	.....	.....	23,	9,	May 12,	16,	.....	22,
1832, ...	Mar. 25,	Mar. 28,	26,	12,	14,	20,	May 24,	June 3,
1833, ...	23,	28,	21,	4,	7,	12,	15,	May 18,
1837, ...	20,	23,	30,	16,	19,	28,	30,	June 2,
1838, ...	23,	31,	May 2,	19,	22,	26,	June 1,	2,
1839, ...	25,	25,	April 26,	4,	12,	14,	May 22,	May 26,
1840, ...	15,	21,	21,	3,	12,	17,	20,	23,
1841, ...	27,	27,	27,	23,	25,	21,	29,	31,

1837-38.	Inches.	1838-39.	Inches.	1839-40.	Inches.	1840-41.	Inches.	1841-42.	Inches.
Nov. 9,....	2	Oct. 29,....	1	Nov. 6,....	2	Oct. 26,....	2½	Oct. 8,....	2
26,....	5	Nov. 7,....	3½	9,....	1½	Nov. 22,....	7	26,....	3½
Dec. 10,....	3	19,....	2	Dec. 11,....	3	26, 27,....	3½	29,....	3
11,....	1	28,....	2	16,....	9	Dec. 7,....	6	Dec. 2,....	1
18,....	3	Dec. 7,....	½	17,....	1	22,....	3	14,....	1½
28,....	1	17,....	1	28,....	5	27,....	8	18,....	15
Jan. 15,....	1	18,....	4	29,....	4	Jan'y 2,....	10	Jan'y 5,....	2
19,....	2	23,....	6	Jan'y 5,....	4	6, 11,....	5	9,....	2
28,....	12	29,....	1	15,....	1½	22, 25,....	8½	27,....	3
Feb'y 11,....	5	Jan'y 4,....	1	23,....	6	30,....	2	Feb'y 17,....	15
13,....	3	5,....	1½	Feb'y 26,....	1	Feb'y 2,....	2½	22,....	1
17,....	8	28,....	1	March 7,....	1	6, 10,....	4½	26,....	4
22,....	1	Feb'y 2,....	1	10,....	2	17, 27,....	7	March 7,....	5
March 6,....	6	8,....	2	24,....	7	March 7,....	5	15,....	1
21,....	1	27, ..	4	.....	..	9,....	4	26,....	5
28,....	2	March 3,....	1	.....	..	29,....	7	.....	..
30,....	3	19,....	5	.....	..	Apl. 6,15,....	2	.....	..
April 2,....	1	April 13,....	3½	.....	..	22,....	5	.....	..
Inches,....	60	Inches,....	41	Inches,....	48	Inches,....	92½	Inches,....	64

The following table, also derived from Thompson's "Vermont," contains the time of the opening and closing the broad lake opposite Burlington, and when the steamboats stopped their regular trips through the lake from Whitehall to St. Johns, for several years.

YEAR.	Lake Champlain closed.	Lake Champlain opened.	Line steamboats commenced running.	Line steamboats stopped.
1816,..	Feb'y 9,	.....	.....	.....
1817,..	Jan'y 29,	April 16,	.....	.....
1818,..	Feb'y 2,	15,	.....	.....
1819,..	March 4,	17,	April 25,	.....
1820,..	Feb'y 3, March 8,	Feb'y —, Mar. 12,	.....	.....
1821,..	Jan'y 15,	April 21,	.....	.....
1822,..	24,	Mar. 30,	.....	.....
1823,..	Feb'y 7,	April 5,	April 15,	.....
1824,..	Jan'y 22,	Feb'y 11,	.....	.....
1825,..	Feb'y 9,	.....	.....	.....
1826,..	1,	Mar. 24,	.....	.....
1827,..	Jan'y 21,	31,	.....	.....
1828,..	not clos'd	.....	.....	.....
1829,..	Jan'y 31,	April —,	April 6,	.....
1831,..	.....	.....	11,	.....
1832,..	Feb'y 6,	April 17,	23,	.....
1833,..	2,	6,	8,	.....
1834,..	13,	20,	4,	Dec. 5,
1835,..	Jan'y 10, Feb'y 7,	Jan'y 22, April 12,	21	Nov. 29,
1836,..	Jan'y 27,	21,	25,	29,
1837,..	15,	26,	29,	Dec. 10,
1838,..	Feb'y 2,	13,	19,	Nov. 26,
1839,..	Jan'y 25,	6,	11,	28,
1840,..	25,	Feb'y 20,	11,	.....
1841,..	Feb'y 18,	April 19,	28,	Dec. 1,
1842, .	not clos'd	.....	13,	.....

PART IV.

MINERALOGY AND GEOLOGY.

The field of researches presented by Essex county, in these departments, is so expanded and rich, that the labor of years would be required for its competent examination. Neither the peculiar duties of my survey, nor the opportunities afforded me, have allowed more than a rapid and superficial investigation of these highly important aspects. A strong and universal public sentiment of regret and disappointment pervades the county, that the public munificence designed to explore and reveal these resources, has been so sparingly extended to a region, richer, probably, in its mineralogy, and more interesting in its geological arrangements than any section of the State, if not all the other parts combined. Few and insignificant specimens have illustrated, in the geological rooms, the vast and diversified elements of its natural structure and resources. More imperative engagements of those, to whom this duty has been confided, have doubtless produced results so adverse to the interests of the county.

The mineral wealth of Essex county is not limited to iron ore, but comprehends numerous other minerals of great interest and value. Iron, however, in immense deposits, constitutes its predominant resource. In many sections of the county, it forms the basis of the entire structure of the earth, and occurs not merely in veins, nor even masses, but in strata which rise into mountains. The surface is often strewn with "bolders" of Iron ore, weighing from a few pounds to many tons, as ordinary rocks are scattered in other districts. The Adirondac district is pre-eminent in this county, and is probably surpassed in no region in the extent of its deposits of iron, and the higher qualities and varied properties

of its ores. The ores seem to concentrate in the vicinity of the village of Adirondac, and here literally constitute the formation. The cellars of their dwellings, in many instances are excavated in the massive beds.

The discovery of a mineral deposit, extensive and valuable, as the Adirondac Iron District, is an event so rare and important, that it seems appropriate in a work of this character, to perpetuate its minute history.* An Indian approached the late David Henderson, Esq., of Jersey city, in the year 1826, whilst standing near the Elba iron works, and taking from beneath his blanket a piece of iron ore, he presented it to Mr. H. with the inquiry expressed in his imperfect English, "you want to see 'um ore, me fine plenty—all same." When asked where it came from, he pointed towards the south-west, and explained "me hunt beaver all 'lone, and fine 'um, where water run over iron dam." The Indian proved to be a brave of the St. Francis tribe, honest, quiet and intelligent, who spent the summers in hunting amid the wilds of the Adirondacs. An exploring party was promptly arranged, who submitting themselves to the guidance of the Indian plunged into the pathless forest. The first night they made their bivouac beneath the giant walls of the Indian Pass. The next day they reached the scite of the present works, and there saw the strange spectacle described by the brave; the actual flow of the river over an iron dam, created by a ledge of ore, which formed a barrier across the stream. The reconnoisance revealed to their astonished view, various and immense deposits of ore, equal almost to the demands of the world for ages. A glance disclosed the combination in that secluded spot of all the ingredients, and every facility for the most extensive manufacture of iron, in all its departments. In close proximity existed, an illimitable supply of ore, boundless forests of hard wood, and an abundant water power. The remote position of the locality formed the chief impediment to the scheme which was adopted at once by the intelligent explorers. Not deterred by this consideration, they immediately secured the purchase of an extended tract, embracing the entire iron district. A road was soon constructed to the scite, with slight aid from the State, at a great expense through

*A. Ralph, Esq.

a dense, uninterrupted forest of thirty miles in length. The purpose was pursued with untiring energy and strong enthusiasm, by the proprietors, Archibald McIntyre, Archibald Robertson and David Henderson, Esqrs. A settlement was soon commenced and an experimental furnace constructed. Iron was produced, of rare and valuable qualities, rivaling almost in toughness and strength, the best products of the Swedish furnaces. A small blast furnace was soon afterwards erected, together with several forge fires and a puddling furnace. Bar iron has been more recently fabricated to a considerable extent. Iron, produced from this ore has proved admirably adapted to the manufacture of steel, and has been extensively used for that purpose by the steel works of the Adirondac Company at Jersey city. (See J. Delafield's address, page 142, State Agr. Trans. 1851.) I need only refer in addition to the report of Mr. Johnson which exhibits the triumphant display of that steel at the World's Fair. A magnificent blast furnace has recently been completed at the Adirondac works, of the largest dimensions, perfect in its construction and powers and most judiciously adjusted in all its arrangements.

Numerous ore beds exist within an area of three miles, and nearly all are comprised within half that distrance from the works. They are singularly distinct in the appearance, nature and quality of the ores.* The "Mill-pond ore bed" is situated in so immediate proximity with the furnace erected by the company, that its foundation rests upon a section of the vein. The length of this bed, ascertained by the actual mensuration of Prof. Emmons, is 3,168 feet, and the width 700 feet. An opening of 40 feet in depth has been excavated, and at that point, the ore is found more free from rock and richer than at the surface. Its hardness is not of that character, which constitutes, the hard iron of the mines, nor does it communicate that quality to iron which it yields. It contains in common with most of the ores of this district a small per cent of *titanium*, which renders it to some extent refractory in the furnace. Slight injections of serpentine in irregular veins, crystals of green felspar, seams of carbonate of lime, and the common rock are mingled with this ore and incidentally small particles of sul-

* I derive much of my information relative to the history and minerals of the Adirondacs, from the valuable MSS. prepared at my request by Alex. Ralph and Robt. Clark, Esqs.

phuret of iron may be traced, although too minute to injure the quality of the ore. This bed has afforded nearly all the ore used in the furnace.

The Sandford bed, is situated about two miles from the former and occupies the slope of a hill, which terminates upon Lake Sandford. The elevation of the bed is 600 or 800 feet above the lake, but is approached by a gradual and easy ascent. This ore is less coarse than the preceding, and of a dark, black color. It has, when exposed in the bed almost the appearance and form of a stratified rock. It possesses great and unusual purity and is almost entirely exempt from stone. The ore may be projected from the bed to the lake by an inclined plain, or it may be transported by teams loaded within the bed. The width of this vein is 514 feet, and its length along the centre 1,667. At each extremity it does not terminate, but passes beneath the rock. No correct or proximate calculation can be formed of the probable contents of this vast deposit. The minimum estimate, exhibits the immense amount of 6,832,734 tons, which may principally be raised without blasting. This would yield 3,000,000 tons of the purest iron.* Personal examination, corroborated by the opinions of highly practical and intelligent men, warrants the conjecture that this estimate is below the real amount of ore. If it were possible to disclose the extent of this vein as it seems to exist, the sum of the aggregate could scarcely be estimated. Ores, exhibiting similar qualities crop out at different points, along an extension of the same course. One of these indications presents a face of 32 rods in length and 15 rods in width. Such facts suggest the conclusion, that these veins are a prolongation of the Sandford deposit, and that its true magnitude may embrace a distance of two miles and one half in length, with a proportionate width. Another important deposit, known as Mt. Magnet apparently forms the mass of an eminence directly east and fronting the village. This is distinguished as the "fine grained ore bed." This is very marked and peculiar in its characteristics. Although it is generally firm, with grains closely cemented together, it often becomes extremely friable when exposed to atmospheric influence. The oxydization makes it appear as if mingled with rock. On the

*Emmons' Report.

surface it has an aspect of leanness, although remarkably rich, free from impurities and probably of more practical value for the furnace than either of the preceding veins.*

This vein is remarkably uniform and regular, and extends in length 5,742 feet, and in width about 70 feet.† It exhibits a strong appearance of stratification in the bed. The divisional seams are very distinct at the surface, but like those in the hyperstene rock, they are the result of a law of nature analogous, if not identical to the principle of crystalization.* A small vein or probably a branch of this bed, occurs in the same hill and is designated the "Crystalized ore bed." This vein is lined on the sides by a wall a few inches thick, formed of pure hornblende. A rare and peculiar formation. On the eastern slope of the same eminence, another vein of fine grained ore is developed, and probably of equal extent with that already noticed. The Cheney bed, situated about three miles west of Lake Sandford yields the finest grained ore of the district. It occurs in gniess and differs from every other vein in that peculiarity.* Numerous other veins are known to exist in proximity to these, but have only been superficially explored. A supply of ores, that the consumption of centuries cannot exhaust, immediately encompasses these works. Little doubt can exist that the entire district, constitutes one vast formation of ores, concealed by a narrow and slight encrustation of earth and rock. I found, in the centre of the "Indian Pass," a specimen of ore, closely analogous to the ore of the Sandford bed. These ores are all varieties of the black oxide of iron, exhibiting a mechanical mixture of the protoxide and peroxide of Iron.*

I propose to deviate from the formal arrangement of my subject, in order to present in one group, the varied and interesting topics, embraced in this important district. An exhibition in one view, of its striking features, of its geology and mineralogy, the peculiar harmony and adaptation of its resources to sustain its great predominant interest, will enable the reader more distinctly to apprehend the nature, the varied capacities, and singular advantages of this extraordinary region. When appropriate avenues, equal to its resources, shall connect it with the marts of

*R. Clark. †Prof. Emmons.

commerce, the Adirondac Iron district, it is judged, is capable of being made, and will probably attain a position among the most extended and wealthiest Iron manufactories of the earth. This strong declaration is predicated upon the facts, that these ores, so singularly and distinctly varied in their properties, that they are adapted to the manufacture of every Iron fabric; that they are inexhaustible and of the easiest access; that the stately forests which mantle the mountains, encircling these works, are nearly as boundless as the ores, and that every material, almost essential to the manufacture, are embraced within the district. Clay prevails contiguous to the works, of a quality, it is believed, adapted to the manufacture of the required brick. Lime is abundant, and, although partially affected by native impurities, may be converted to the desired purposes. The hydraulic power will ever remain, and be always adequate to every demand. The resources of this region, will ultimately compel the construction of several avenues to it, which are already projected. One which will connect it, by an interior water communication, with the coal fields and furnaces of the west, will be described in a subsequent section of this report. Another scheme, proposes to unite it, by the course of the Racquette river, with the St. Lawrence, and a third, will form an intercourse with the Hudson, along the valley of the Schroon. When the thousand forge fires, that the wealth of this ore will one day lighten, shall illuminate the Adirondacs, these projects will be consummated.

The upper works and the village of Adirondac, are situated upon the river, midway between Lakes Henderson and Sandford, in a narrow ravine, embosomed amid the lofty pinnacles that surround it. This neat little village realizes to the mind our ideality of a Swiss hamlet, its lake, its river, its mountains "crowned with their coronal of snow." Lake Henderson, in exceeding loveliness, slumbers in quiet and beauty at the foot of the giant "Santonine," and is almost enveloped in a mountain screen. These works, by the existing circuitous road, are about fifty miles removed from Lake Champlain.

A ponderous and costly dam erected by the Adirondac Company, at the lower works, a distance of ten miles, throws back the volume of water to the very base of a new dam recently erected

at the upper works, in connection with the furnace just completed. This fact affords striking evidence of the formation of the country. An excellent water communication is created by this improvement between the upper and lower works. At each extremity of the navigation, wharves, cranes, and every other appliance, are already constructed to facilitate the transportation of heavy commodities. A survey has established the existence of a practicable and cheap route for either a railroad or a plank road, from the lower works to the Schroon valley, a distance of only eighteen miles. The wants of an industrious community, and the exigencies of general business, must secure the construction of a railroad through that valley to the Hudson. When this most desirable project is accomplished, the furnaces and ore beds of the Adirondac district, will be separated by a land transportation of only eighteen miles from New-York. Private enterprize will soon surmount that slight impediment to a continuous communication. Few will anticipate the exposition, which the agricultural section of this report will present, of the progress in husbandry that has been already attained in the Adirondac territory, or the favorable nature of its soil and climate to cultivation.

The lofty group of mountains which occupy this region are formed almost exclusively of the hyperstene rock, which has been rendered somewhat familiar to the scientific world by the reports of the State Geologists. This rock in different proportions, is diffused through almost every section of the county. The mineral hyperstene from which it derives its name, is incorporated in it, in very minute quantities, whilst the "labradorite" or "opalescent felspar" constitutes its most conspicuous element. Although essentially granite, the hyperstene does not exhibit the ordinary appearance of that rock. Its color as revealed in the quarry is a smoky grey. In some quarries it is lighter, and in others it presents a strong green tinge, which forms a predominant shade. On the surface this rock is seamy, to so great a degree as to present almost an appearance of stratification; deeper in the quarry it is thrown out in large and firm blocks. Its beauty is greatly enhanced when lines of lighter color occur, by which it is traversed. Experiments have been succesfully made in sawing and polishing slabs from this rock. If it yields blocks sufficiently firm and con-

solidated for this purpose it will prove a most valuable and desirable material for the structure of the delicate and ornamental fabrics, to which the choicest marble is only appropriated. No Egyptian stone surpasses it in its beautiful and variegated colors, or in the brilliancy of its luster. The hyperstene is equal to the granite as a building material. The "Labradorite" is an exquisitely beautiful mineral, rivalling the plumage of the peacock in its brilliant irridescence when wet or polished, and exposed to the action of the light.* Highly opalescent specimens are not common, although that characteristic is partially exhibited in every crystal. Blue is the predominant shade, at times mingled with green. The green seldom occurs alone, but is exceedingly brilliant and beautiful. Gold and bronze specimens are occasionally discovered, and rarely, crystals are found combining all these colors in a splendid irridescence. At times the crystals are striated, each alternate stria showing the opalescent reflection. Occasionally two colors alternate in the same crystal; both are seldom seen in the same direction of light. The bed of the Opalescent river, which derives its name from the circumstance, abounds in this mineral, and when the sun shines at the cascades through the clear water, the whole rock seems to beam and glow with the refulgence of the beautiful gems.* Bright opalescent specimens, polished and in settings, are highly valued in jewelry. This mineral was discovered by the Moravian missionaries in Labrador, and when originally introduced into England, commanded most exorbitant prices. There are but few foreign minerals enclosed in the Hyperstene rock. A small granite vein appears, near the Adirondac village, which is from one to three feet wide. Some of the Felspar taken from this vein (a specimen of which is deposited in the Agricultural Rooms,) are peculiarly beautiful; they exhibit a remarkable glittering, spangled appearance. Crystals of iron have been found in this vein, similar to the crystalized ore. Serpentine is also sparsely mingled in it.*

Graphite exists in this locality, but has not been discovered either in sufficient extent or purity to give it value, although often found in very beautiful radiated nodules. It usually occurs in

* R. Clark.

small quantities at the juncture of the gneiss and primitive lime stone rocks. A small vein of *Serpentine* and carbonate of lime, occurs in the bed of the river. Slight veins of *Trap*, are numerous, and I may add, to avoid recurrence to the subject, that this rock is prevalent in almost every section of the county, sometimes exhibiting extensive walls, and forming the dyke of most of the Iron ore beds. At Jay, lower village, it spans the river in a massive dam. The immense and remarkable dyke at Mt. McMartin, requires a more particular notice.* It is developed near the center of the mountains, rising abruptly from Avalanche Lake, it traverses the mountain near the summit. The trap is a sienite composed of hornblende, intermingled with grains of felspar and small portions of garnet. It is softer than hyperstene, which constitutes the remainder of the mountain, and has been extensively deranged by the action of the elements. A deep gorge has been formed by this disintegration, cutting through the mountain and exposing the whole stratum of the trap. At the entrance this gorge is 100 feet wide and 150 feet deep, and gradually decreases in both width and depth as it ascends the mountain. The trap vein may be traced upon Mt. McIntyre, in the same course, but less revealed on its bare and precipitous sides. An immense slide nearly parallel with this dyke, has bared the mountain in its terriffic descent from the summit to the base, leaving a path of naked rock. The debris borne along in its course has nearly filled that part of Avalanche Lake beneath its track. This lake, a fountain of the Hudson, is 2,900 feet above its level, and is probably the most elevated body of water in the State. Its cold waters are only inhabited by a small lizard. The gneiss rock extends south and west from Lake Sandford over an extensive territory, until it is surmounted by the primitive limestone. In some sections of the district gneiss rests upon the hyperstene. It is inadvertently stated in a State Geological Report that gneiss does not disclose itself west of North Hudson. It certainly exists in a large expanse in Newcomb.* I traced it in Minerva, and found it extensively disseminated in Jay, North Elba, and St. Armand. The primitive limestone rapidly disintegrates and separates when exposed to the action of the elements.

* R. Clark.

The Adirondac Company was originally incorporated with a capital of $1,000,000. Large sums have been disbursed in the progress of these improvements, in opening the wilderness, and in a series of experiments upon the ores of this district. The tragic death of Mr. Henderson in the midst of these scenes, which his great energy and spirited enterprise had tended so much to animate and reveal, impeded these efforts. The depression in the iron interest, and considerations of private expediency have induced a temporary suspension of these magnificent works. It is with profound regret that we contemplate such immense industrial capacities unimproved, such vast resources lying waste. Not a sound, not a movement of business indicates the heart of a region boundless in the bounties of nature. No occupation but agriculture engages the attention of the agents of the proprietors. These pursuits are conducted with great success, and in a highly judicious and intelligent system.

Moriah Iron District.—The tract, thus appropriately distinguished by the State Geologist, is scarcely subordinate to the Adirondac district in the magnitude of its deposits; equal in the quality of its ores, and far more eligibly situated in the present medium of access to markets. *Fourteen beds* are now discovered and partially explored.* They have all been fully tested, and afford ore adapted to every practical use. The Cheever mine, until recently owned by the Port Henry Company, has been opened more than forty years. It is situated about one-fourth of a mile from Lake Champlain, and three miles north of Port Henry. It presents an average breast of about 14 feet pure iron. Occasional pyrites occur in this ore, but not sufficient to impair its quality. The ores of this district are all magnetic. The ore of this mine separates in large blocks and is of peculiar value for the blast furnace. In the past summer, the pillars of iron left to support the enormous burthen of rock and earth above the chamber formerly worked, yielded to the weight, and the whole mass was crushed together. The concussion was like an earthquake, rending the earth and dislocating the massive rocks for acres. The *Goff & Foot* bed is a large and valuable bed in the immediate

* I am greatly indebted to J. P. Butler Esq., for an elaborate and carefully arranged description of the ore beds of Moriah.

vicinity of the Cheever mine, and very similar in the qualities of the ore. This bed was reached by sinking a shaft 40 feet through the cap rock.

The *Old Sandford Mine* is a vast deposit. It was discovered about thirty years since, cropping out on the brow of a hill of considerable elevation. It has been worked with slight intermissions since its discovery, and the aggregation of the ore exported from it is almost beyond conception. The bed seems to have been formed by a vast upheaval. The terrific power of the agency that produced it is indicated by the position of the disturbed and distorted rocks in the vicinity. This ore is stratified, easily drilled, and a single blast not unfrequently throws off 30 tons of pure ore. The length of one opening of this mine is 214 feet, with a breast of ore of 82 feet. The width of this excavation averages about 30 feet. Teams may drive into this mine and load directly alongside of the breast. This ore yields 75 per cent. of iron. Large quantities of it, (and indeed most of the ores of this district) are transported to Pittsburgh, commanding at that place $11.50 per ton, where it is mixed with the ores of that region, and is held in the highest estimation. The ore of this mine contains the phosphate of lime, which will be noticed in its appropriate place. Another valuable opening of this mine has been excavated, exhibiting a breast of 99 feet, 66 feet in length, and an average depth of 25 feet. A third manifestation of an important character of this mine occurs in the immediate vicinity of the former. The "new bed" is situated about one-half a mile from the old Sandford bed. This mine contains the celebrated shot ore, and is more in requisition than any ore in this district. It yields 75 per cent. of pure ore. The mine has been excavated a length of 179 feet, with a breast of 16 feet. A block of pure ore, embracing all the varieties peculiar to it, has been taken from this mine, weighing 2,175 pounds. The "*Barton bed*" is near the "New bed." The ore is mixed with silex. This is esteemed a highly valuable bed. The "Old *Fisher bed*" is in the same system, and with the "Barton bed" is probably a prolongation of the New bed. The ore in this and the Barton bed is chiefly arranged in veins. This series of ore beds is situ-

ated in a distance of five to eight miles of the lake. A plank road extends from Port Henry to the Old Sandford bed.

The mine situated upon lots No. 23, 25 and 21, iron ore tract, and principally owned by Mr. Rousseau, of Troy, lies near the old Sandford bed, and is probably a prolongation of that deposit. It was opened in 1846, and is distinctly manifested over an area of two and a half acres. This mine occurs on the side of a hill, nearly at the same elevation as the Sandford bed. "It would be difficult," Mr. Butler writes, "to obtain an approximation to the quantity of ore in this single deposit, without estimating the contents of the entire hill." Extensive explorations fortify this opinion. The first opening was made by sinking a shaft directly into the ore to the depth of sixty-five or seventy feet, and from thence blasting laterally. A tunnel was subsequently constructed horizontally through the cap rock from a lower point on the hill side, until it reached the shaft. The design of this work, was to render the ore accessible without incurring the expense of removing the earth. It is believed, however, that the extreme stratified character of the ore will render this impracticable, and that the mine must be uncovered to make it fully available. This mine, and several others in the district, are drained by a siphon.*

The *Butler & Spear bed* lies about 1½ mile from the lake. The ore is a magnetic oxide, impressed with a hematite type. The vein has been traced by a magnet nearly one-half a mile. It has been opened about ten rods in length, and about twenty feet in depth, presenting a breast of nine feet, widening as it descends. This ore is very peculiar and of great value from its malleability and toughness. It is mixed with silex and carbonate of lime; requires separating, but works freely and reduces rapidly in a common forge fire. The bed was discovered in 1848. Its first analysis was made at my request by Professor Salisbury, and presents the following results. The table also exhibits an analysis of a hematite ore from the same locality.

* J. P. Butler, Esq.

	No. 124. Hematite, Moriah.	No. 125. Butler's Magnetic ore.	No. 126. Same after exposure to atmosphere.
Peroxide of iron,.....	76.06	56.53	49.11
Protoxide of iron, ...	.....	28.49	21.02
Silica,.....	22.82	13.81	27.14
Alumina,.....	1.08	1.02	1.43
Carbonate of lime,.....	.....	.....	1.21
	99.96	99.85	99.91
Percentage of pure iron in the per and protoxides,.	52.741	61.202	50.289
Percentage of oxygen in the per and protoxides,	23.319	23.818	19.841

Prof. Salisbury makes the following practical and judicious suggestions: "Nos. 125 and 126 should be well roasted before placing them in the furnace for reduction. The roasting should be carried on at a temperature below the fusing point of the ore. The magnetic ore melts into a slag at a cherry red heat. Care should be taken not to reduce the ore to a slag while roasting, as this slag is useless and even injurious in the reducing furnace. The heat should be simply high enough to peroxidize the protoxide, and dissipate volatile vapor. As a general rule, the higher the state of oxydation, the more readily is the ore reduced. The protoxide is very difficult of reduction. After the ore is properly washed, it should be placed in a blast furnace, with a strong base, as lime, for a flux. This base will act beneficially in combining with silica and alumina, and thus prevent the formation of silicates and aluminates of iron."

The "Hall bed," or "75," as it is usually designated from the number of the lot upon which it is situated, yields an ore of great excellence, equal if not superior in quality to any in the Moriah district. It was formerly classed among the "lean ores," but is now judged to afford a larger percentage than has been supposed of pure ore. The bed embraces a number of veins of various dimensions. Several are in close proximity to each other, and very probably, it is inferred from their course, unite beneath the surface in forming a single "breast." This ore when separated is in

great demand. The deposit is believed to be extensive and very valuable. The bed is situated about seven miles from the lake.

The "Conro" and "Miller" beds are rich and important veins. The former occurs a few rods north of the "Old Sandford bed," and is very similar to that bed in the general appearance and quality of the ore. It has been opened about a hundred feet in length, and presents a breast of about 16 feet. The Miller bed has not been sufficiently opened to fully establish its extent and character. It has been traced nearly a mile by the magnet. The ore is said to possess some very distinct and desirable qualities.

The "felspar iron ore bed" indicates and appears to possess peculiar combinations with felspar, that greatly enhance its value. This mixture much facilitates its reduction. The Moriah district comprehends two other mines of great value, situated near the boundary of Crown Point and Schroon. Both appear to possess inexhaustible quantities of ore. They are of the magnetic type. The *Penfield mine* was discovered in the year 1824, and has been in constant working from that period, with no perceptible exhaustion. This evidence of capacity is indicated universally by every ore bed in this region, which, for a long series of years has been opened. The existence of the *Hammond ore bed* was ascertained in 1827, but it was not extensively excavated until 1846. This bed lies within half a mile of the Penfield mine. They do not essentially differ in their characteristics and qualities, and are probably an extension of the same vein. These beds are about ten miles in the interior, and are situated upon elevated land, before it rises into mountains. The Penfield ore produces a very superior bloom iron. The Hammond ore possesses the highest qualities, of peculiar strength and softness, and is eminently adapted to the purposes of the foundry and the fabrication of machinery. The harder parts of the pig metal are particularly calculated for the manufacture of car axels and malleable articles. The extreme fluidity of this iron, and the long time it remains fluid, renders it highly valuable in the manufacture of these fabrics.* The pig metal made at the furnace of Hammond & Co., is of the first quality, and is unsur-

* C. F. Hammond, Esq.

passed. The series of specimens, which I have transmitted to the rooms of the State Agricultural Society, exhibits an amazing advance in the improvement of this fabric. The remarkable specimen, which has been subjected to the refining process recently introduced into their works, exhibits the closeness and compressed fiber, the brilliant luster, and the general aspect of the choicest steel, from which it can scarcely be distinguished by the nicest mechanical eye.

On the premises of the Messrs. Treadway, in Schroon, and upon the same upheaving of the land on which occurs the mines of Penfield and Hammond, and in the same course, I examined several veins of ore, of excellent promise, both as to extent and quality. I infer from these indications that these veins are an extension of the former, and that the intermediate territory, a distance of ten miles, may be occupied by a vast formation of ores. Several large and valuable beds occur in Elizabethtown. A part of these deposits, it is asserted by tradition, yielded the first ore wrought in the county of Essex. The "Little Pond" ore bed constitutes the mass, the formation of a considerable eminence. These mines, placed in the center of the county, and surrounded by extensive iron manufactories, are highly valuable and important deposits.

The "Little Pond bed" is among the most remarkable formations of iron ore in this county, and from the quality of the ore, the apparent magnitude of the deposit, and its favorable position, may be classed among the most valuable mines of the region. This bed is situated about six miles from the lake, and near a plank road. It apparently forms the mass of an eminence, probably covering at the base an area of forty acres, and elevated nearly two hundred feet. The excavations which have been made reveal a broad breast of ore of the highest purity. The examinations already made, which are corroborated by the general appearance and indications of the mound, seem to authorise the opinion, that this entire eminence is a mass of ore, covered only by an incrustation of rock and earth of a few feet in depth.

If further developments shall establish this fact, the quantity of the ore in this deposit may be pronounced illimitable, and its

value and importance almost beyond computation. I have solicited for this report, and been furnished with a copy of the analysis by Dr. Chilton, of the ore, which presents the following very favorable results.

Protoxide of iron with a little peroxide of iron,	90.27
Silica,	4.11
Alumina,	0.22
Lime,	.83
Magnesia,	3.43
Water, &c.,	1.14
	100

"The proportion of pure iron in the sample is 68.80 per cent."

Numerous veins of iron ore have been discovered in the town of Chesterfield, but no one has been extensively worked. These veins; the Mihill's vein, in Keene; the several Johnson's beds in Jay; a new vein just discovered on the premises of Mr. Clark, in St. Armand, and the various other veins in different sections of the county, specimens of which have been transmitted to the rooms at Albany, will, I have no doubt, be found when sufficiently explored, of great extent, and an excellent quality of ore. I examined in North Elba several large deposits, evidently of a high character of ore. They were singularly overlooked, when the original veins, worked by the Elba company, were abandoned, and it was judged necessary to transport the raw material from the Arnold bed in Clinton county. It is unnecessary to pursue this topic. The deposits of iron pervade almost every section of the county, and to such a degree, as often to embarrass the operations of the engineer, in the use of the ordinary compass. The past history and progress of these mines sustain the conviction, that deposits remain undeveloped of equal magnitude and high properties, as those already revealed, which will be explored when the demands of business require their development.

Graphite or *black lead* prevails extensively in various sections of the county, but Ticonderoga and the eastern part of Schroon seemsto be its peculiar district. I obtained very pure and choice

specimens from Jay, Chesterfield, and Moriah. The deposit upon the premises of W. A. G. Arthur, Esq., in Ticonderoga, spreads over a great extent in seams which traverse the rocks in deep veins of one to two feet in width. The wall is quartz or trap rock. Enormous specimens of great beauty and purity are excavated from this mine. A total freeness from lime, supposed to exist in portions of the material from these veins, will render it of the greatest value in the construction of crucibles. Other veins in the same district have been partially worked. I inspected two openings near the works of Messrs. Treadway, in Schroon, which afford very decisive indications of the graphite, in a large deposit, and of an excellent quality.

In the progress of my survey, I have most assiduously searched for traces of Galena, with a strong impression of its existence within the limits of the county. The coincidence of several circumstances has formed this conviction. It is found in light veins in the fissures of the rocks of several localities. A prolongation of the veins of St. Lawrence county would appear within the county of Essex. A map procured in London in 1784, which exhibited an exact and minute designation of the headlands and islands, of the soundings and the position of each rock and reef of Lake Champlain, derived from the accurate surveys of the French and English engineers, strengthens this opinion.* Upon this map thus maturely and carefully arranged, a point is designated in the mountain range between Chesterfield and Willsboro', as the "*Lead ore bed*," A traditional legend of this ore bed is known to exist among the savage tribes north of the great lakes. A little flotilla of canoes, bearing Indians from that region, as they represent, appear yearly about the middle of autumn, lying on the beach in the vicinity of those mountains. Lingering here for several days, with no ostensible pursuit, they as suddenly disappear. I cannot resist the popular opinion that these periodical visits have some connection with this Legend and the existence of this ore bed.

* This map was brought from England by Elkanah Watson, and was loaned by him to a State department at Albany. All trace has since been lost of it. It was a most important and interesting document, and believed to contain the only minute chart of Lake Champlain extant. The steamer Francis Saltus was wrecked in 1852, upon a slight needle rock laid down on this chart, but unknown to most of the navigators of the lake.

A highly intelligent resident of North Elba* has communicated in a valuable description of that town, prepared for my use, a singular and apparently well authenticated fact of the accidental discovery of a vein of *silver ore* among the Adirondacs of that region, and the loss of its trace. He adduces very strong evidence of the fact, and that pure silver was fabricated from the ore.

A quarry of black clouded marble of rare beauty and softness occurs upon the garrison grounds at Crown Point. Although more than a century ago the entrenchment of Fort St. Frederick, penetrated a section of the quarry, it has excited no interest until its importance has been revealed by the enterprise of the Messrs. Hammond. Its texture is firm and consolidated, but so soft and free from grit that it may be readily carved by a pocket knife. It opens in large slabs and blocks, receives a high and brilliant polish, and is adapted to the most delicate fabrics. Another quarry of dark stone, situated upon the bank of the river in Ticonderoga, is extensive, and will, I think, prove of great value. Harder and less delicate than that at Crown Point, it is darker, and appears susceptible of a very high polish.

A quarry is situated upon the premises of J. N. Macomber, in Chesterfield, of great apparent extent, and very unlike either of the above in color and structure. It is a light brown, variegated by a white, with a shelly combination, and receives a brilliant polish. The unusual coloring and appearance of this marble, will probably render it a valuable deposit. An analysis of it will be presented in another department of this report.

The geological formation along the shore of Lake Champlain, presents an unique and remarkable alternation of the primitive with the higher structures. The former, in a general inclination, recedes from the lake, but incidentally dislocates the formations of the latter by projecting through them veins and ledges, in lateral spurs. At Ticonderoga, a range of sandstone and limestone rock supervenes. Proceeding northward, we meet at Crown Point, a ledge of regular granite, and veins of gneiss, succeeded by limestone containing fossil remains, and mingled with the

* Timothy Nash, Esq.

black marble. At Port Henry, is exhibited a remarkable and scarcely defined and promiscuous mingling of various strata of rocks and minerals. Serpentine, mica in large and beautiful masses, gneissoid granite, primitive limestone, are conspicuous. The pure white of the calcareous limestone, spotted by the sparkling black specks of plumbago, form most beautiful cabinet specimens. In Keene, I found specimens more rare and exquisitely beautiful of this limestone, dotted by bright green crystals of sahlite. *Verd antique* occurs in large veins at Port Henry, and is an exceeding rich and brilliant material. An observant gentleman of that place affirmed that a fossiliferous limestone rock, presenting a perfect stratification, might be seen at low water on the margin of the lake, forming a substratum to these primitive rocks.

The granular limestone which crops out at Port Henry, appears in Ticonderoga, near Lake George, and prevails extensively in Schroon and Minerva. I found but one manifestation of the rock in North Elba, upon the farm of Mr. Hinckley, where it developes in a ledge, upon a side hill. It appears usually combined with sulphates, phosphates, or other foreign substances. The *hyperstene* rock projects from the mountains in Westport, and, incidentally traversed by limestone, predominates. The primitive rocks prevail in the southern section of the town of Essex. Here occurs that very extraordinary exhibition of *porphyry* so elaborately discussed in the report of Professor Emmons. This rock, extending over the surface upon several acres, is peculiarly beautiful in its color, structure, and singular dentritic formation. It affords perfect demonstration of an igneous agency, most potent and terrific, that rent asunder the earth, fused and ejected this vast rock. The extreme hardness of the porphyry, is a marked characteristic. Struck with the steel hammer, it evolves a brilliant corruscation of light and sparks. My attention was directed to another remarkable exhibition of porphyry, upon the premises of Mr. Clark, on Willsboro' point. This vein, about a foot wide, is interjected in a seam of blue limestone, and the rock has been evidently dismembered in the process. Scarcely a fragment of the disrupted limestone remains, near the porphyry vein, but by a singular coincidence, or as an evidence of the amazing power of this agency, I was informed that fragments of

broken limestone, about equal in quantity to the rock, thrown off by the porphyric eruption, are scattered upon the top of an hyperstene hill, two miles distant, and two hundred feet high, and in a direct line with this porphyry vein. Large and productive quarries of limestone, from which valuable exportations of building materials are annually made, are wrought in Essex and Willsboro'. Various fossils occur in this rock, and also in the slate or shale which lies contiguous. Many of these remains are of great size, and in unusual preservation. A few years since, a single fossil of a reptile was exhumed by Mr. Clark, measuring two feet in length, and so perfect in its preservation, that the form of the minute scales could be distinguished. The northern extremity of Willsboro' point, is occupied by a slate ledge, identical in appearance, and its fossiliferous character, with the same formation, upon the Islands and the Vermont shore of the lake. At Mount Trembleau, as in Willsboro', Westport and Moriah, the hyperstene rock plunges into the lake in a bold, ragged, and perpendicular wall. A very peculiar and large deposit of stalagmite lies upon the north bank of the Boquet, near, but not subjacent apparently, to a mass of limestone. Several veins of kaolin, develope at Mt. Trembleau, upon the lake shore, beneath the hyperstene. Similar masses occur in other sections of the county. A specimen from Putnam's pond, in Schroon, was subjected to analysis, many years since, by Professor Eaton* and pronounced by him eminently pure and exempt from injurious combinations. Limestone, and very clear quartz rock, supposed to be adapted to the glass manufacture, and beds of clay, of great purity, occur in St. Armand.†

A long and attractive list of rare and beautiful minerals might be exhibited, which are incorporated with the rocks of Essex county, or imbedded in its earth. Particular localities are peculiarly rich in these deposits. The crest of a hill upon the premises of Col. Calkins, near Lake George, affords a choice field for the researches of the scientific explorer. The avalanches, at Long pond, in Keene, presents a site still more lavishly supplied

*Mr. Treadway.

†Elias Goodspeed, Esq.

with brilliant gems and minerals.* Augite garnet, zircon, sahlite, sphene, coccolite, adularia, rose colored quartz spar, epidote, clorite, jasper, carnelian, are among the minerals yielded by these remarkable deposits. Veins of colophonite occur in Lewis, Chesterfield and Willsboro'. This exceedingly splendid and beautiful mineral is found in vast conglomerates, refulgent in the colors and luster of innumerable gems.

An interesting substance, the type of a large deposit taken from the farm of William Russell, in Chesterfield, is worthy of notice, and is analysed below by Professor Salisbury. "This material, he remarks, is so interesting from the large amount of sulphur and sulphates of iron, it contains, that I gave it a thorough chemical examination. If the deposit is sufficiently extensive, it may some day, prove a source of wealth to the county."

One hundred parts dried, at 212° gave of

	No. 15, "Debris."
Silica,	41.21
Iron,	15.29
Alumina,	5.36
Sulphur,	27.14
Sulphuric acid,	8.85
Lime,	1.44
Magnesia,	0.11
Potassa,	0.23
Soda,	17
Chlorine,	trace
	99.80

"If this material is in sufficient quantity, it may be used with profit for the manufacture of sulphate of iron. On heating the rock up to a low red heat, it takes fire and burns for some time,

* I have been favored by the Rev. Mr. Pattee, with a more particular and highly interesting description of the latter locality. It is situated near Edmond's pond, at a precipice laid bare by an avalanche in 1830. In the bed of a little brook, which leaps down the slide, innumerable minerals sparkle, and are strewn about the vicinity in every direction. High up the precipice, a series of caves occur, which are the peculiar deposits of the gems and minerals, and almost rival in beauty and variety, the caverns of eastern story. "Here are found large boldors, and even ledges of calcareous spar, blue, white, and sometimes beautifully variegated by crystals of epidote, coccolite, and hornblende. They are occasionally found in stalactitic and crystaline forms, but more generally in amorphous masses." "The basalt is chiefly found in veins and dykes."

giving off large quantities of sulphurous acid." A singular formation of natural copperas, exists immediately below the "Wilmington Notch," on the bank of the Au Sable river. The impregnated water oozing from the earth, forms a thick concretion upon the rock, which may be removed in large quantities. It is adapted, in its crude state, to all the usual purposes of the artificial sulphate of iron. I submitted a specimen of this ingredient to Professor Salisbury, for examination, whose analysis gives the following results:

"One hundred parts of dried, at 212° contains of

Sulphur,	5.10
Iron,	9.05
Sulphuric acid,	4.68
Silica,	70.90
Alumina,	2.50
Lime,	4.70
Magnesia,	0.70
Potassa,	0.85
Soda,	1.21
Chlorine,	0.11
Phosphoric acid,	trace
	99.80"

"From the account of the extent of this deposit, I see no reason why it may not become valuable for the purpose of manufacturing sulphate of iron, and sulphuric acid."

Copper ore has recently been disclosed, many feet below the surface, in the "phosphate mine," and at another locality in Crown Point. These indications cherish the expectation of finding the ore in large deposits. Specimens submitted to Professor Salisbury, afford the following very favorable analysis. The results indicate that copper may become an important commodity in the metalic resources of the county.

	No. 68.	No. 85.
Copper,	44.50	46.70
Iron,	21.30	10.45
Sulphur,	30.20	.....

Carbonic acid,	.....	23.10
Silica,	3.70	19.60
	99.70	99.85

"No. 68 is copper pyrites, containing iron, as it usually does. This is sufficiently rich in copper to make it valuable if found in any considerable quantity. The greater part of the copper of commerce comes from this kind of ore. No. 86 is a carbonate of copper, and will be very valuable if found in adequate quantities."

The hyperstene rock, occupying a wide range through most sections of the county, abruptly terminates in contact with the Potsdam sandstone in the Au Sable valley. The latter forms for several miles the walled banks of the Au Sable river, and is extensively diffused over that valley. Lying in a perfect stratification, it may be excavated in vast slabs and blocks, and affords an invaluable material for building.

A vein of "water cement" in the town of Willsboro', of a very superior quality, has been used for practical purposes for many years, and is apparently of great extent. Other deposits of this material occur in various parts of the county. A sample from one upon the premises of Harris Page, of Chesterfield, was examined by Professor Salisbury. His analyses of specimens from both deposits are presented in the following table:

	No. 51. From Willsboro'.	No. 30. H. Page, Chesterfield.
Silica,	14.36	57.37
Alumina and iron,	7.93	16.36
Carbonate of lime,	60.46	17.43
Soda,	0.73	0.06
Magnesia,	13.46	7.93
Potassa,	0.60	0.10
Sulphuric acid,	0.20	0.23
Chlorine,	0.14	trace.
Organic matter,	1.60	0.46
	99.98	99.88

"No. 51, if in quantities sufficiently large, and uniform in composition, like the sample analysed, will prove a highly valuable deposit for the manufacture of hydraulic cement. In composition it has all the materials present in the requisite proportions for yielding a superior cement. No. 30, although a hydraulic cement, yet the sample analysed is too silicious for forming a strong cement."

Paint exists in different sections of the county, in numerous deposits and various colors It is generally disintegrated and pulverized, and is used in its crude state for ordinary painting. When prepared by artificial refinement, it is believed these minerals will be made useful for practical purposes. An ore occurs in Ticonderoga of a rocky consistence which presents a bright rich vermillion surface, and it is supposed will yield an important paint. It exhibits the following components on an analysis by Prof. Salisbury. Dried at 212 degrees, 100 parts gave of

Sesquioxide of iron,	88.20
Silica,	10.05
Alumina,	0.60
Carbonate of lime,	0.65
Magnesia,	0.41
	99.91

"This rock contains besides the bodies mentioned above, a very small percentage of manganese. I see no reason why this ore might not be valuable for smelting if it occurs in sufficient quantities. It will make a very good dull red or reddish brown paint, if it can be ground sufficiently fine."

I selected from the numerous deposits of paint in the county a sample from a bed upon the premises of Mr. Robert Cook, of Chesterfield, which I considered to possess qualities of peculiar excellence. The bed lies in a ravine, in an open pasture and is of easy access. The paint appears upon the surface or by the removal of a few inches of turf, and is revealed over an area of many rods, exhibiting evidences of a vast deposit. The follow-

ing extract presents the analysis of Prof. Salisbury, with his opinions in reference to the properties and promises of the article.

"100 parts, deprived of water, gave of

Organic,	18.35
Oxides of iron, manganese and alumina,	69.61
Silica,	9.80
Lime,	1.43
Magnesia,	0.43
Potassa,	0.06
Soda,	0.03
Chlorine,	0.07
Sulphuric acid,	trace.
	99.77

"This material contains quite a large percentage of organic matter; aside from this it is composed mostly of the oxides of iron, manganese and alumina, with silica; all of these are very durable. It will make a very good paint as it is, but a far more durable and superior one when freed of the organic matter which it contains. This can readily be accomplished by burning, which if thoroughly done, completely destroys the organic matter and improves the color."

DRIFT AND DILUVIAL FORMATION.

Whilst strong and indubitable evidences prevail throughout the county of Essex that an igneous power constituted the stupendous agency that impressed upon this region its peculiar features and characteristics, it is equally manifest that an aqueous action exerted an influence in moulding its existing formation. Without designing to vindicate any opinion or to educe any theory, it seems required by my position that I should present summarily a few prominent facts which may possibly convey to other minds elucidations and arguments on this subject.

Lake Champlain is only 93 feet above tide water, and a plummet descending in it 600 feet, has not reached bottom. These facts may be suggestive of important considerations. Marine shells, forming large deposits of marl, occur in the vicinity of the

lake, in a state of such preservation that the species may be readily defined, and which induces the belief of their being a comparatively recent deposit. The tenacious blue clay, surmounted by the yellowish clay peculiar to marine formations, may be traced widely disseminated in the county. Numerous deposits are disclosed along the sides of hills and mountains, of large gravel, rounded by attrition and decay, and presenting every assimilation in appearance to the line of a beach that has been washed by the surges. The sand drifts are uniformly or nearly so, exposed in long and narrow expanses, occupying the tracts of valleys or ravines. The recent formation, is perfectly illustrated near the village of Pleasant Valley, where a slide exposes the stratification of the earth to a depth of some twenty feet. The lower stratum revealed is the yellow clay, succeeded by a coarse and rough gravel; this is surmounted by a smaller gravel, clear and abraded; the latter is covered by a stratum of sand, light and washed, and beneath the entire mass projects logs and roots. The lovely valley that borders the Schroon river, and spreads over an area of several miles between Paradox and Schroon lakes, presents equally decisive evidences of a recent formation. This plain is fertile, and now generally under high cultivation. In sinking pits for wells and other purposes, logs nearly entire and prostrate trees are constantly found from 12 feet to 17 feet below the surface.* I have before referred to the appearance of ripple marks near the base of the "walled banks of the Au Sable."

In Elizabethtown, on the brow of an eminence, many feet above the valley, a perforation in the solid rock, smooth and rounded, may be seen, not unlike in size and general form to a common caldron kettle. I examined two others on the premises of Col. CALKINS, and similarly situated upon the crest of a precipice. I also inspected another formation of this kind on the lands of Messrs. Treadway, in Schroon. The half circle of this remains entire; the residue has been apparently destroyed by fragments of rocks, fallen from the cliffs above. The entire circle was probably twenty feet in diameter. This also stands upon the verge of a high and abrupt precipice of probably two hundred feet in depth. The appearance, the form, the position, the smooth and worn surface of these extra-

* Clark Rawson, Esq.

ordinary structures, all indicate that they have been formed by the abrasions of a rapid and powerful current of water.

The existence of "boulders" formed of every rock, and disseminated through the county, equally upon the hills and mountains as in the valleys, presents a broad and attractive field for scientific researches and philosophical speculations. Boulder rocks, dissimilar in character and belonging to other formations, worn and rounded, are scattered over the county in utter confusion and dislocation. Granite intermingled with sand, sandstone resting upon hyperstene, and gneiss upon limestone, perpetually occur. A gentleman of intelligence assured me, that he had examined a fragment of red sandstone near the summit of a hyperstene mountain, in the center of the county, and remote from every rock of that description. I saw in Moriah, a Potsdam sandstone block, lying upon the surface of a rock of gneiss, many miles from the former in scite. Among the Adirondacs, at an elevation of 1,700 feet, and more than 1,000 feet above any known locality of Potsdam sandstone, pebbles of that rock are found, bearing all the close crystaline appearance of that stone at Keeseville.* They are found in gravel pits, sand beds, and along the banks of the river. The presence of these boulders, varying in size from the mere pebble to masses of many tons, occurs in every section of the county. These are among the facts and circumstances existing in this region calculated to illustrate theories and speculations on the subject of the drift formation of the country.

FERTILIZERS.

Phosphate of Lime.—The extraordinary deposit of this rare and valuable mineral in Crown Point, has elicited much interest and attention from both the scientific and agricultural community of England. It is a singular incident, that a general knowledge of its existence should have been announced to the citizens of Essex county, by a report of a discussion on the subject, at an agricultural festival in that country. The purpose I had contemplated of an elaborate examination of the material, its history, uses, and effects, has been anticipated by the expose

* R. Clark.

embraced in the invaluable report of Mr. Johnson, and the able essay on the subject contained in the Transactions of 1851.

The public owe the discovery of the mine in Crown Point to the discriminating observation and sagacious enterprise of C. F. Hammond, Esq. His attention was originally attracted to the locality by an appearance of iron ore, and the presence upon and near the surface of large numbers of quartz crystals. These indications, and the peculiar and unusual formation and texture of the rocks, suggested a minute examination of the place, which revealed a substance, the name and character of which Mr. Hammond was ignorant. In the year 1838, he directed the attention of a Naturalist to it, who decided upon a casual inspection that it was a new and rare mineral, and designated its name, but pronounced it of no value except for cabinet specimens.* The zeal of Mr. Hammond was unabated, and in a subsequent examination urged by him and made in 1850, the mineral was ascertained to be a great desideratum in agriculture—a natural phosphate of lime. In the autumn of the same year ground was broken at the mine, and excavation commenced. The opening is directly upon a public highway, and one and a half mile from the shore of Lake Champlain. A shaft eight to ten feet wide has been sunk 115 feet. Lateral galleries have been projected north and west from the bottom of the shaft. The copper ore already noticed, was discovered in one gallery, and the phosphate was raised from the other. About 170 tons of the first quality of the phosphate has been exported to New-York during the last season, and a large accumulation of an inferior quality now remains at the mouth of the shaft.

A variety of ore had been excavated for many years at the "Old Sandford bed," in Moriah, and esteemed of little value on account of the incorporation of an ingredient known to the miners as "red sand." This element greatly depreciated its purity. A huge mass of the ore containing the "red sand" had gradually accumulated near the ore bed. The eye of science incidentally fell upon it, and soon detected in this rejected material, the presence of a pure phosphate of lime. The ore is thickly studded

* C. F. Hammond.

with six-sided prisms of the mineral. A machine is now in progress of construction near the bed for the purpose of separating the phosphate from the iron. This process, it is expected, will extract a large amount of pure phosphate from the ore, and will relieve the latter from a foreign element that renders it worthless for manufacturing purposes. A successful result of this experiment is anticipated with much solicitude.* The phosphate of lime occurs in various localities of the county, and in other combinations, to what extent and value future development must determine.

MARL.

Specimens of marl from the farm of Mr. Tafft, of Crown Point, and the premises of Col. Watson, of Port Kent, have been examined and analysed by Professor Salisbury, with the following results:

	No. 3. Marl Marine Shells.	No. 4. Marl Fresh Water Shells.
Silicic acid,	59.20	22.60
Phosphoric acid,	1.15	2.35
Carbonic acid,	9.92	28.15
Sulphuric acid,	0.15	0.09
Lime,	12.78	36.26
Iron,	3.40	1.15
Magnesia,	0.55	0.35
Potassa,	0.45	0.30
Soda,	0.40	0.07
Chlorine,	0.11	0.12
Organic matter,	11.61	8.44
	99.72	99.94

"The marine marl, (No. 3, from Port Kent,) is a deposit of great value as a manure; aside from its being rich in phosphoric acid and lime, it contains most of the other inorganic matter which enters into the food of plants. No. 4 will also prove valuable to those in its vicinity."

* Since my explorations in Moriah, I have understood that the phosphate has been discovered largely incorporated with the iron ore of other mines in that district.

LIMESTONE.

The limestone, particularly the calcareous variety so extensively diffused in the county, incorporated as they are almost universally with other fertilizing elements, will prove, I think, of the highest value in the agricultural economy of the county. I procured a specimen of rock in Schroon which has been partially tested as a fertilizer, with a highly favorable issue.* A careful experiment, comparing it with other agents, exhibits very satisfactory results. The Nova Scotia plaster proved the most efficacious. In the effect of the Schroon rock and the western plaster, no perceptible difference was manifest. The influence of each was marked and decisive, indicated by the superiority of the crop to which they were applied, over that part which had received no application of either of these materials. I extract the views of Prof. Salisbury on the subject of this rock. "I subjected it to merely a qualitative examination. Found it to be made up principally of carbonate of lime. It also contains a small quantity of silicate of lime and alumina, and a small percentage of phosphate of lime. The superiority of this rock over ordinary limestone arises from the presence of the small amount of the silicate and phosphate of lime." The deposit is boundless, and I cannot resist the conviction that the material will prove of vast utility to that region, and will ultimately become an important article of exportation.

The following analyses of limestone rock from various districts of the county, present and enforce the fact of its great value as a fertilizing principle:

* Letter of Abijah Smith, Esq.

	No. 208. Fertilizer. Messrs. Treadway. Schroon.	No. 232. Limestone. Hinckley. North Elba.	No. 264. Grey Marble. Macomber. Chesterfield.	No. 44. Rock. Boynton. Willsboro'.	No. 190. Limestone. W. G. Calkins. Ticonderoga.
Carbonate lime,	66.59	83.97	87.10	70.31	80.92
Silica,	16.20	11.57	3.85	21.39	10.21
Alumina and Iron,	6.80	3.13	6.05	3.61	4.69
Magnesia,	2.80	0.23	0.85	1.09	0.58
Soda,	2.84	trace.	0.35	trace.	trace.
Potassa,	1.86	trace.	0.50	0.80	trace.
Chlorine,	0.14	0.10	0.26	0.31	trace.
Sulphuric acid,	2.40	0.20	0.44	0.69	0.40
Phosphoric acid,	0.13	0.07	0.20	0.20	0.11
Plumbago,	0.20	0.19	....	....	1.69
Organic matter,	trace.	trace.	0.32	1.40	0.90
	99.96	99.46	99.92	99.80	99.50

Prof. Salisbury remarks in relation to these materials, "No. 208 is almost a hydraulic cement. It contains a large percentage of lime, also a respectable quantity of magnesia, and an unusually large percentage of soda, potassa, chlorine, sulphuric and phosphoric acids, for a rock of this kind. On this account, it is most admirably adapted as a manure for agricultural purposes." This valuable deposit is situated near the head waters of Putnam's creek, in Schroon, upon the premises of the Messrs. Treadway.

"The "grey marble," of Chesterfield, No. 264, and No. 44, rank next in agricultural value. They are also unusually valuable for this purpose, as will be seen by referring to their composition. The marble will also make an excellent lime for masonry. Nos. 232 and 190, although less valuable than the others, on account of the absence of the alkalies, yet they are equal in richness, to the majority of limestones. They are both quite well adapted for the manufacture of lime for masonry."

PEAT.

Peat, or bog earth, exists in immense deposits in various sections of the county, and is adequate alone to the fertilizing of every acre of arable land within its borders. The fact that this substance is attracting the general attention of farmers, and is becoming extensively used, furnishes most satisfactory evidence

of the progress in the county of agricultural science and improvement. The specimen analyzed by Prof. Salisbury, was taken from the farm of Mr. Haywood, of Schroon, and is the type of a vast body ranging through the adjoining premises of Mr. Fowler, and others. The suggestions of Prof. Salisbury, derived from the analyses, are eminently just and important.

Bog earth, or peat, No. 22, 100 parts dried at 212°, gave of

Organic matter,	93.48
Inorganic matter or ash,	6.52

This is a remarkable pure peat, being composed almost entirely of organic matter. 100 parts of the inorganic matter or ash, gave of

Phosphoric acid,	19.37
Sulphuric acid,	3.61
Carbonic acid,	0.41
Chlorine,	3.78
Lime,	22.86
Magnesia,	8.78
Potassa,	13.24
Soda,	16.32
Iron,	7.01
Alumina,	1.06
Manganese,	0.41
Silica,	3.11
	99.96

"From 4 to 7 per cent. of the dry peat, is made up of a peculiar resinous matter, which seems to impregnate and envelope the fibres, and prevent their ready decomposition. By combining with the peat, caustic lime, or ashes, or both, the resinous matter will unite with the lime or potassa and soda of the ashes, and form a soluble soap, which is readily dissolved in water, leaving the undecomposed peat to be acted on freely by the agents of decay. Every farmer who has used peat to any considerable extent, is aware of the little benefit he derives from it when spread alone upon his land. In fact many have become so pre-

judiced against it, by not knowing how to treat it, that they have unhesitatingly set it aside, as one of the quite useless humbugs of book farming."

I inspected numerous other deposits of peat, but can only refer to the very extensive one, upon the premises of the Hon. A. C. Hand, in Elizabethtown, which spread over several acres. It exhibits all the characteristics of the specimen from Schroon, distinguished in the analysis of Professor Salisbury. A pole was thrust 18 feet below the surface through the peat, without reaching the subsoil beneath.

A material designated "black clay," in the arrangement of earths, was examined by Professor Salisbury, with the following results :.

"No. 23, principally peat, from the premises of Mr. Fowler, Schroon, contains,

Organic matter,	49.70
Silica,	38.82
Iron and alumina,	9.60
Lime,	0.28
Magnesia,	0.20
Potassa,	0.34
Soda,	0.36
Chlorine,	0.26
Sulphuric acid,	0.32
Phosphoric acid,	0.08
	99.96

No. 23, marked "black clay," is an aluminous and silicious peat. It will make when mixed with ashes or lime, an excellent manure for sandy soils."

MINERAL SPRINGS.—ANALYSES.

Numerous springs of mineral waters exist in this county, but no one that exhibits very peculiar or high medicinal properties. It should be remarked, however, that all the springs from which

the specimens analysed were taken, are unprotected and exposed to a large infusion of pure water. Those situated upon the premises of Mr. Stevenson of Westport, have been only tested by practical use, and are found to possess eminently valuable properties, when applied in the diseases referred to by Prof. Salisbury. The springs are beautifully situated near the lake. They appear to contain by the examination of Prof. Salisbury, the following components:

	1 gal. water from sulphur spring.	1 gal. water from cold spring.
Sulphuretted hydrogen,	16 cubic inches.	....
Organic matter,	8.64 grains.	8.16 grains.
Sulphur,	2.88 "	....
Lime,	10.32 "	12.88 "
Magnesia,	2.24 "	3.12 "
Potassa,	1.36 "	1.20 "
Soda,	1.12 "	0.88 "
Iron,	1.04 "	1.44 "
Chlorine,	trace	0.48 "
Sulphuric acid,	0.88 "	1.52 "
Phosphoric acid,	0.32 "	2.48 "
Carbonic acid,	1.36 "	1.44 "
Silicic acid,	0.40 "	0.48 "
Total solid matter in one gallon,	30.64 "	34.08 "

"One distinguishing character of the sulphur spring is the large quantity of sulphuretted hydrogen its waters contain. A portion of the alkaline basis is also combined with sulphur, forming sulphides. The water at the spring contains considerable more sulphuretted hydrogen than is given in the analysis, probably twice as much. This gas rapidly escapes after the water is removed from the spring and exposed to the air. This water will be found highly useful in scrofula, gout, rheumatism, and especially in all cutaneous affections, both as an outward and inward application. The saline materials may prove useful in many diseases of the digestive organs.

"The water of the cold spring is not as valuable as that of the sulphur spring. It, however, will doubtless prove useful as an

outward application in cutaneous diseases, and as an inward application in some affections of the digestive organs. In some diseases of the kidneys it might prove injurious."

The water designated in the following analysis, as No. 3, was taken from a spring upon the premises of L. Pope in Chesterfield, and No. 6 from a spring in Jay, situated almost within the water line of the Au Sable river. In relation to these waters, Prof. Salisbury remarks, "on removing the cork, I found in No. 3 a mere trace of sulphuretted hydrogen; in No. 6 no trace of this gas, or carbonic acid gas could be detected. They both contained a very small quantity of a ferruginous sediment. No. 6 has a slightly bituminous odor. No. 3 a slight fœtid odor. There is nothing very peculiar in the taste of either of these waters, different from that common to all waters, which contain organic matter, and the alkalis and alkaline earths in small quantities."

A gallon of water from No. 3 contains 12.16 grains of solid matter, and from No. 6, 6 grains of solid matter. Of this solid matter 100 parts gave of

	No. 3.	No. 6.
Organic matter,	31.98	41.32
Magnesia,	23.39	14.64
Sulphuric acid,	10.13	5.28
Lime,	11 03	17.34
Potassa,	6.01	7.98
Soda,	3.32	0.27
Carbonic acid,	6.40	4.01
Phosphoric acid,	5.11	5.32
Chlorine,	1 82	2.31
Iron,	0.51	1.19
Silica,	0.23	0.14
Sulphuretted hydrogen,	trace	....
	99.93	99.80

"The bases of the water of No. 3 are combined with organic matter, sulphuric and phosphoric acids and chlorine. The sulphuric acid is probably in part combined with the magnesia, giving to the water a very slight brackish taste. This may well be called a calcareo-magnesian water, from the presence of so large a quantity of magnesia and lime. Besides these bodies it contains a respectable quantity of potassa, soda, sulphuric and phosphoric acids and chlorine. The water of No. 6 differs from Nos. 3 and 5, in having a very much smaller percentage of solid matter. Its solid matter also contains a much larger percentage of organic matter than either of the others. The principal bases are lime, magnesia and potassa. The principal acids are phosphoric and sulphuric. Although these waters offer no very special points of interest in a medicinal way, yet in another point of view, they are subjects particularly interesting, in throwing light upon the geological formation in which they occur."

The spring from which the water marked No. 5 was taken, is situated almost within the shadow of the giant wall of the "Indian Pass." A fountain of health, sufficient to constitute a "watering place," within the pure and invigorating atmosphere of the Adirondacs, and amid scenes where nature reigns in profound seclusion, and in such imposing and terrific grandeur, would possess infinite attractions and interest. One gallon of this water gave of solid matter 12.64 grains, and 100 parts of this solid matter gave,

Organic matter,	19.73
Sulphuric acid,	23.32
Potassa,	20.33
Magnesia,	16.14
Lime,	4.78
Phosphoric acid,	4.18
Carbonic acid,	3.59
Soda,	2.34
Chlorine,	1.19
Iron,	4.18
Silica,	0.11
	99.89

"The analysis shows No 5 to be a magneseo-potassa water. From its composition I should judge it to be superior to No. 3, in a medicinal way. The magnesia and potassa are probably mostly in the form of sulphates. No. 5 has a slight earthy odor."

PART V.

INDUSTRIAL PROGRESS AND RESOURCES.

The earliest business associations of northern New-York, were connected with the markets of the St. Lawrence. The illimitable forests of Essex county, presented the first field to the settler for the efforts of industry, and has continued to their successors an inexhaustible source of enterprise and wealth. The lumber trade with Canada, commenced soon after the permanent occupation of the country, subsequent to the revolution. Those survive who were connected with it as early as 1790. It enlisted for many years, almost the whole energies of the population.

The public lands yielded a rich and unquestioned harvest to those who entered upon them, while the rights of private owners of wild lands were regarded with exceeding laxity. Fictitious sales for taxes and other legal pretences, were often unscrupulously, used to palliate or disguise these depredations. The price paid upon real sales of standing timber, was merely nominal. Labor imparted to the material its value.

Norway pine and oak were at that time principally esteemed for the Canadian trade. White pine had little comparative value, until the construction of the Champlain canal opened a new channel to this commerce. The oak sticks, prepared for the northern market, were hewn. The pines were designed for the navy of England, and were transported to Quebec, round, and of any length exceeding twenty feet. Spars of vast dimensions were exported from the shores of Lake Champlain, and sold to the agents of the British government, probably to form

"The mast of some tall Admiral."

The winter season was chiefly devoted to preparing and collecting these materials, and the whole force of the teams, and labor of the country, was put in requisition for the object. The timber was gathered in coves or low marshes, protected from the winds and floods of early spring, and there formed into immense rafts. Deals or thick planks of pine, and oak staves were ultimately manufactured, and exported to the same market. These articles were arranged in cribs, and transported with the rafts or piled upon its surface. The rafts were often of great size. They were propelled through the lake by sails and oars, and were borne by the current and tide, down the Sorel and St. Lawrence rivers. In passing the rapids of the former, the rafts were partially taken asunder. The strong currents of the St. Lawrence, impelled them rapidly down that stream, but the turbulent tides near Quebec, often swept them beyond the havens of that city, with great danger, and at times a total loss. These catastrophes were not unfrequent. The average price at Quebec, of oak timber, was 40 cents per cubic foot, and that of pine, about 20 cents. The timber cost delivered upon the shores of Lake Champlain, from 6 to 8 cents, and the transportation from thence to Quebec, was about 2½ cents in addition, per cubic foot.* The profit of this trafic seems to have been exorbitant, yet singularly, it proved to most who engaged in it, unfortunate and disastrous.

Similar oak timber, at the present day, exported to New-York, through the canal, subject to far heavier disbursement, is worth only 27 and 30 cts., in that market. The magnitude and activity of this business rapidly exhausted the masses of timber contiguous to the lake, and spars and timber were eventually transported from forests fifteen miles in the interior, to the place of rafting. Small rafts of spars and dock sticks, formed of the scattered relics of the original forests, are still annually collected and carried to the southern market.

No decked vessel, it is stated, navigated Lake Champlain fifty years ago. The insignificant commerce which at that period existed upon its waters, was conducted in cutters, piraguas, and batteaux. Few wharves had then been constructed.

* I am indebted to Mr. James Pilling, chiefly, for the details of the lumber trade.

The emigrants desiring to land their stock, were often compelled to approach some favorable position, and throwing the animals overboard, swim them to the shore. In the more sparsely settled districts, vessels freighted with salt would anchor in some adjacent cove, and announce its presence to the inhabitants, who were often compelled to haul their grain on sleds through the woods, to barter for the salt. In this interchange, a bushel of wheat usually purchased a bushel of salt.*

The merchant visiting the southern market for goods, before the introduction of steamers upon the lake, which occurred in 1809, consumed generally a month on the journey. The return of the merchandize was still more protracted. This journey was often performed on horseback, and occasionally by a chance vessel. The goods were transported in winter by sleighs, and at other seasons by water, from Whitehall. Now, the merchant may visit Boston, make his purchases, and on the third day exhibit his wares upon the shelves.

The village of Essex, for a series of years, was the important business mart of this entire region. The manufacturing works, for a long period, were limited to grist mills, for domestic use, and saw mills. The latter became numerous, as the demand for deals and other sawed lumber augmented.

The construction of the Champlain canal gave a different direction and imparted a new character to the lumbering operations of northern New-York. Norway pine became subordinate in value to the white pine. The Quebec trade yielded to the new avenues opened to our own marts. Finer articles of lumber were prepared for the southern markets. The lumber business in its changed aspect again became the paramount occupation of the country. Innumerable saw mills were erected, and the forests of white pine were demolished with as much rapidity as the Norway pine had been at an earlier day, to supply the Quebec market.

The amount and value of the various fabrics, the produce of the forest, which have been transported by the Champlain canal from Essex county, are almost inappreciable. The manufacture

* Norman Page, Esq.

of lumber is in most sections of the county nearly extinct, from the exhaustion of the raw material. A large proportion of the sawed lumber shipped at Port Kent and Port Douglas, is derived from the forests of Franklin county, which are rendered accessible by the plank roads. The mills at Ticonderoga are chiefly supplied from Lake George. The amount of lumber annually exported from Crown Point, is about 5,000,000 feet of sawed lumber, and ten hundred thousand of shingles. 200,000 pieces of lumber were shipped from Port Douglas in 1852;* 600,000 pieces from Ticonderoga; 1,000,000 pieces of boards and plank, equal to 1,625,000 feet boards from Port Kent.† From Port Kendall 9,227 promiscuous pieces.‡ Large quantities of sawed lumber are shipped from various other ports in the county, the amount of which I have not been able to procure.

The pine in the vicinity of Crown Point affords an article of lumber much superior in quality to that manufactured upon the Ausable or Saranac, and is distinguished by a finer grain, softer fibre, and a more brilliant surface. My attention was particularly directed to the circumstance, and I notice it as a curious fact in vegetable physiology.

The exhaustion of the forests accessible from Lake Champlain, has constrained the lumber manufacturer to seek his resources in the wilds of the interior. Logs are now floated from the most remote districts of Franklin county down the Saranac river and through a portion of Essex county, to supply the mills on that stream. State bounty has been extended with munificence to aid in opening that wilderness to this policy, by important improvements in the navigation of the Saranac, Raquette, and other rivers, which penetrate that territory.

A large and valuable tract of timber land lying in the confines of Wilmington and North Elba, spreads along the acclivities and for many miles around the base of the White Face mountain. This is the only district of extent or value, occupied by the primitive forest of pine, spruce, and hemlock, now remaining upon the territory of Essex county. Environed by lofty mountain barriers, it is impracticable to export manufactured lumber from this

* Walpole. † C. P. Allen ‡ Levi Highby.

region. It is estimated that this tract may yield one million of saw logs. Although the Au Sable river in its various branches, spreads through it a length of perhaps thirty miles, its channel is so obstructed as to render it useless for the floating of logs. These impediments have rendered this tract inaccessible to ordinary private effort and enterprize. A slight application of that patronage which has been lavished by the State, upon other localities, would make this stream practicable for the floating of the logs to mills, from whence their products would find a market by the Champlain canal, and thus pour a vast tribute into the public revenue. I witnessed the results of individual exertions in the improvement of this navigation, and much has been accomplished: but public policy and justice invoke with the strongest emphasis action from the Legislature, that shall open the latent and inaccessible resources of this secluded territory. The efficiency and value of this mode of transporting timber are fully illustrated by its successful operation in other parts of the country.

The numerous and widely diffused branches of the Hudson are annually appropriated for the transit of a very large amount of logs. Insignificant mountain rivulets, swollen by the spring freshets, are converted into valuable mediums for this purpose, by the adroit management of the experienced lumberman.

The following statistics, furnished by a person prominently engaged in the occupation,* exhibits some interesting and important facts. In the spring of 1852, 20,000 standard pine logs, 6,000 spruce, and 15,000 hemlock logs, from the town of Schroon, were rafted at the head of Schroon lake. The expense of getting and driving these logs, was sixty-five cents each for the pine and spruce, and fifty-five cents for the hemlock. These logs were worth, delivered at Glen's Falls, $2.25 for the pine, $1.25 for the spruce, and $1.00 for the hemlock. During the last season, 30,000 logs, chiefly pine, were transported in this manner from the town of Newcomb, at an expense of $1.00 for each hundred logs. At the same time, 32,000 logs of pine and spruce, and 8,000 of hemlock, were floated down the Boreas river, a tribu-

* Mr. Abijah Smith, of Schroon, to whom I am indebted for most of my information on this subject.

tary of the Hudson which flows through the town of Minerva. The expense of transporting the pine and spruce, was sixty cents per log, and that for the hemlock, 40 cents. An additional number of 25,000 logs were transported during the same period to Glen's Falls, from the more remote western districts of Minerva, and at about the same expenditure. These logs are floated singly or in rafts to mills at that place, and are there manufactured for the southern market. In addition to this immense exportation, there was sawed in the town of Schroon an aggregate of about 600,000 pieces of lumber, measuring more than nine millions of feet. This enormous consumption of timber has nearly exhausted the primitive forest, and the business may be regarded as approaching its termination. It can scarcely be conceived, when in the summer solstice we perceive a tiny stream standing in pools along the steeps of a mountain, that a few months before the largest logs had been transported upon its flood.

Potashes.—While the county was passing through its transition from a primitive state to cultivation, the forest yielded a highly lucrative and available resource, in the manufacture of potash. Prohibited exportation by the non-intercourse policy of our own government, this traffic was illicit; but, stimulated by the exorbitant prices which the exigencies of the British affairs attached to the article in the Canadian market, an immense quantity found its way from northern New-York into Montreal. In the year 1808, and about that period, potash commanded in Canada, $300, when the usual price had ranged from $100 to $120 per ton. This manufacture occupied nearly the whole population in its various connections, while the excitement existed, which was alone terminated, by the final declaration of war, in 1812.

The manufacture of potash existed to a considerable extent, within the last twenty-five years in some sections of Essex county, but as a distinct occupation is now abandoned. The vast accumulations of leached ashes about the ruins of the asheries, witness the former magnitude of this business, and are proving, where they occur, invaluable deposits of a highly fertilizing material to our farmers. As an appliance to their light and sandy

soils, leached ashes are among the most active and useful manures, and exert a permanent physical agency upon the soil, that alters its consistency and modifies its whole character.

Tanneries.—Another profitable and very prosperous business, which is sustained by the products of the forest, is becoming the predominant occupation of the town of Minerva and portions of Schroon. Several large and valuable tanneries are established in this district, and the adjacent towns in Warren county. The extensive demands these works create for bark, forms an extensive market, which is abundantly supplied from the woodlands of that region.

A conflagration of the woods presents a scene in the highest degree imposing and terrific, and often inflicts destructive ravages upon the pursuits of the manufacturer, as well as the products of agriculture. In certain periods of the year, the dried leaves and other combustible materials of the forest form an inflamable mass, which spreads a flame with inconceivable celerity. Impelled by the wind which constantly accumulates in vehemence, its progress is so rapid that neither man or beast is secure of safety in flight. It spreads widely its column of flame as it advances. It seizes upon tops of the loftiest trees, and leaping from object to object, it laps up every combustible substance, far in advance of the body of the conflagration. Sparks borne by the whirlwind for furlongs, start new fires. Immense amounts of property, comprising timber, lumber, wood dwellings, fences, crops of grain and grass are often in a few hours consumed by these inflictions. The intense heat of these fires, by consuming all the organic elements of the soil, frequently destroys for many years the fertility of the earth.

In the spring of 1852, the thriving village of Franklin Falls, just on the boundary of Essex county, was overwhelmed by a visitation of this kind. A fire was noticed in the woods, at a distance of four miles, without alarm or suspicion of danger. Within forty minutes from that period the village, comprehending dwellings, stores, valuable mills, and all their appurtenances, with a mass of manufactured lumber, was enveloped in a sea of flame, and the inhabitants, scarcely escaping with their lives, left to the

destroying element their homes, furniture and provisions. Nothing in a few hours remained to mark this site of industry and business, but a single cabin, all else was a black and smoking ruin. The aggregate loss from this calamity amounted to thirty thousand dollars. This is one of the contingencies and exposures to which the manufacturing interests are subjected.

Iron Manufactures.—The iron manufacturing business of Essex county, destined to become an interest of national consideration, was initiated in an humble establishment at Willsboro' Falls. These works were erected in 1801, by George Throop and Levi Highby, connected with Charles Kane of Schenectady, and designed for the manufacture of anchors. They held an unlimited contract for the sale of all that article they might make for a term of ten years. The anchors varying from 300 lbs. to 1500 lbs., were to be delivered at Troy. One or two experiments were made in exporting them to Quebec, but the result was unfavorable. It is a remarkable circumstance, that the ore used in these works for the first ten years, was principally imported from Vermont, with a few loads from Canada. "A bed at Basin Harbor, owned by Platt Rogers, was the only deposit of iron ore which at that period had been developed in this whole region. Soon after the close of the ten years contract the Arnold ore bed in Clinton county was discovered."* At that period no knowledge, and probably little suspicion existed of the richness and magnitude of the iron ore deposits which were hidden amid the rocks and mountains of Essex county.† The foundery at Willsboro' in addition to anchors, manufactured mill cranks, grist mill machinery, and ultimately steamboat irons. This property passed into other hands, and was finally converted into a forge.

Nail Plates.—At an early period in this century, Mr. W. D. Ross, late of Essex, erected a rolling mill on the Boquet, for the

* Letter of Levi Highby, Esq.

† It is evident, however, from the Gilliland papers, that the idea of the existence of iron ore was excited at an early period. He refers, in 1766, to the fact of the compass being apparently affected by its presence. In his journal of July 31, 1780, is the following entry: "Joseph Carder of Scituate, Rhode Island, offers 6d. lawful money per ton for iron ore, and raise it at his own expense, 500 to 1000 tons annually." On March 13, 1783, the still more definite entry occurs: "John Gilbert, owner Berkshire Furnace in Lenox, proposes to be concerned in iron works, at Lake Champlain, or to buy the ore at one shilling lawful money per ton, and raise it at his expense. Mem—to write him as soon as we may safely visit the place." I can discover no trace of any explorations or further action on the subject.

construction of nail plates. These plates were manufactured in large quantities, and sold at $8 per cwt. to the nail factory in Fair Haven, Vermont.

About the year 1809 Archibald McIntyre and his associates erected iron works upon a branch of the Au Sable river, and in a remote section of the county, comprised within the limits of the present town of North Elba. It was a forge of four to six fires, and designated "the Elba Iron Works." The ore used at the commencement was found in that region, but proving impracticable from the presence of foreign substances, was abandoned, and the works were afterwards supplied by ore transported from the Arnold bed in Clinton county, a distance of many miles, over roads only passable on snow. The products of the forge were exported both to the St. Lawrence and Lake Champlain, but by routes laborious and expensive. I have noticed in the preceding pages the evidences which indicate the existence in North Elba of large and valuable deposits of iron ore, but which remain unexplored. Situated in the midst of dense and stately forests, these works possessed every advantage for the permanent supply of fuel.

The business for a series of years was eminently prosperous. The works, however, proved too remote from market, and ineligibly situated for enduring success, and in the year 1815 were abandoned. A dilapidated dam, and fragments of broken wheels and shafts, and similar vestiges, are the only memorials of their former existence. In the meanwhile other forges were gradually appearing in the region, and when, in 1820, the Champlain canal had been constructed, the iron interest rapidly expanded, and at once exhibited in the increase of its varied works, an earnest of its approaching prosperity and importance. The valley of the Au Sable river was early distinguished as the prominent seat of the iron manufactories, and it still maintains that preëminence.

The Au Sable river for many miles forms the boundary of Clinton and Essex county. The dams erected to supply the water power to the works, along its course, are necessarily in both counties, although most of the structures connected with them are situated in Clinton. These establishments, however, are al-

most equally identified with the industrial interests of Essex county, and from it are derived a large proportion of the raw material, the agricultural supplies and the labor that sustains them.

The forges, rolling mills and nail factories of Messrs J. and J. Rogers at Au Sable Forks; of the Peru Iron Company at Clintonville; and E. and J. D. Kingsland & Co., at Keeseville, each of them upon the Au Sable river, may be classed with the most extensive and valuable iron manufacturing establishments of the Union. The aggregate annual product of nails from these several institutions is immense.*

No process in the mechanical arts is more interesting and beautiful, than the fabrication of nails, by the improved machinery. The instrument is exact and powerful, and pours forth in its operation an unbroken stream of nails, perfectly executed. A single machine, attended by a boy, makes five kegs of 100 lbs. each, daily. The iron of Northern New-York, peculiar for its exceeding toughness and strength, forms nails of the first quality, which command the highest prices in market. The formation of wrought nails by machinery, has been desired for many years, as promising the highest utility in this manufacture. This result, it is assumed, has been recently accomplished in the invention of a machine, by Mr. Daniel Dodge, of Keeseville, which forms the horse nail with great accuracy and beauty. Arrangements are now in progress by Messrs. Kingsland & Co., for the extensive introduction of these machines into their works. Their successful operation, it is considered, will largely extend the nail manufacture in this region.

* The Messrs. Kingsland & Co. alone consume 140 tons of iron each week. They run 50 machines, which manufacture daily 250 kegs of nails. In the year 1852 there was exported from Port Kent, according to a statement compiled by C. P. Allen, Esq., as follows: 81,743 kegs of nails; 467, 18.0.6 tons rolled iron; 200, 8.1.2 blooms. From Port Douglas during same period, by exhibit, 18,923 kegs nails; 3,660,000 lbs. aggregate of Iron. (Mr. J. Walpole.) These ports form the depots of the Au Sable valley. From Port Kendall, also, in the town of Chesterfield, there was exported the same period, 189, 5.3.20 tons iron. (L. Higby.)

A heavy excess of iron after the daily manufacture of 250 kegs of nails, is made by the Messrs. Kingsland into rolled iron of various sizes. The other works upon the Au Sable, it will appear from the above returns, also produce a large amount of rolled iron.

The village of Keeseville is a creation of the iron interest. That pursuit has imparted to it the great prosperity, and in this section of the State, the unprecedented progress which has marked its career. Keeseville is situated upon both banks of the Au Sable river, and occupies an important position in the heart of the iron manufacturing district. Its site scarce thirty years ago, on one side of the stream, was a cheerless and desolate swamp, and on the other occupied by abrupt and barren bluffs of sand. More, perhaps, than any village in the State, its distinctive and peculiar character is manufacturing. In addition to the works, to which reference has been made, a highly valuable foundery and machine works of Goulding, Green & Conro, are of the first importance among the manufacturing establishments in the county. The admirable fabrics of these workshops are widely diffused, and in high repute.* Two flouring mills, which annually consume about 60,000 bushels of wheat, chiefly the product of the west; an extensive planing mill, a woolen factory, plaster mill, tannery, carriage and wagon and cabinet works, are among the industrial pursuits of this community.

The recent prostration of the iron interest, which menaced extinction to that great staple of this district, bore upon Keeseville with intense and appalling severity. The favorable change, which has occurred in all the departments of that business, has restored the former activity and vigor of this village, and re-animated its manufacturing pursuits.

A first class works, comprising forges, rolling mills, and nail factories, owned by Messrs. Gould, Ross & Low, are situated at the Boquet falls. The products of these works are very great, although I have not been able to procure any statement of the amount. Another of a similar character, of which James S.

* Although these works stand on the Clinton shore of the Au Sable, they are so mingled in ownership, labor and material, with Essex county, as to be essentially connected with this industrial history. "They have executed within the last four years large special orders from Canada, California, Missouri, via New Orleans and Lake Superior. It is a most gratifying fact "that improved fixtures, *such as are in common use here,* have been ordered from Ohio, New Jersey and Pennsylvania. Thus showing, that we, in this section, are far in advance of any other part of the United States in improvements and conveniences in the manufacture of wrought iron." (Letter to author from Henry Green, Esq.) They employ a large number of operatives and artizans, and consume annually about 750 tons pig iron, chiefly for machinery.

Whallon is the proprietor, is established on the same stream, at Whallonsburgh, and a third in Elizabethtown, which is in the occupation of Whallon & Judd.

Other valuable works in which Mr. Whallon is also interested, are situated in North Hudson, upon one of the remote tributaries of the Hudson river. By a statement furnished me by Mr. Whallon, it appears that in the year 1852, there was manufactured

	Tons.	
At North Hudson,...	333.09.2.21	bars and blooms.
Elizabethtown, ...	621.00.0.13	do do
Whallonsburgh,...	519.10.0.01	bars.

Of the latter lot, 187 tons was finished bar iron, nearly or quite equal in quality and finish to Swedes iron.

In the town of Lewis, important works are situated upon branches of the Boquet, and are owned by A. Wilder, W. L. Merriam, and others. A furnace was erected a few years since by Mr. F. H. Jackson, in Westport, at a disbursement exceeding one hundred thousand dollars. One of the first furnaces erected in the county of Essex, was built in 1824, at Port Henry, by Maj. Dalliba, formerly of the army. This was a cold blast furnace, and in connection with the manufacture of pig metal, it was appropriated to the casting of hollow ware, and agricultural implements. After various mutations in its ownership, and the erection of most spacious structures, these works, as well as those at Westport, have for several years been unoccupied, presenting a deplorable exhibition of the waste and decay of an enormous investment. Under the new impulse, which animates the iron interest, these furnaces are about resuming operations. The works at Port Henry, with several projected furnaces, to be immediately constructed upon the margin of the lake, are designed for the use of mineral coal, which will be brought from the mines of Pennsylvania and Ohio.

Just within the eastern bounds of Schroon, and in close proximity to the ore beds which I have described, Messrs. Hammond & Co., have erected a very capacious furnace, admirably arranged

in its dimensions, construction and general economy. A brief description of this structure in the language of Mr. C. F. Hammond, will present a distinct view of the plan and management of similar works in this region. The motive power of this furnace is steam.

Mr. Hammond says, "our blast furnace is about 41 feet in height, and about 10½ feet in diameter across the boskers. It contains three blowing arches. The escape heat is taken from near the funnel head, for generating steam, to create the power to blow our blast into the stack, at the three arches. The escape heat after being used under the boilers, passes directly into the oven, where the hot air pipes are placed for heating the blast. The escape heat is used three times before it passes up the chimney, viz: for reducing the ore, raising steam, and heating the blast. A large quantity of the escape heat that is not required for steam or heating the blast, passes from the stack directly up the chimney. Ten, is the average number of tons of pig metal made every twenty-four hours. The consumption per day, is about 1400 bushels of charcoal, with one ton of good clay, one ton of good limestone, and five hundred pounds slag as a flux. Our ore yields about 55 per cent of pig metal, of a very uniform quality." The following is a brief notice of the refining process to which I have before alluded: "Our ore," Mr. Hammond continues, "not being adapted for making hard pig metal, we have the past season, erected what is called a refining fire, for re-melting our pig iron with charcoal, and running it out on to cast iron moulds or chills, which make it very white and hard, and being more refined, better adapted to malleable purposes."*

A process for making charcoal in kilns, has been introduced, within a few years, and eminently promotes the ease and economy of that operation. Mr. Hammond thus summarily explains the mode: "We make most of our coal in kilns, which are built of brick, and supported by a strong timber frame, placed outside of the brick walls. The posts are about 14 inches square, and stand only 2½ feet apart. The kilns are from 45 to 50 feet in length, 13 feet wide on the inside, and about 20 feet high, arched

* Specimens of this beautiful fabric are in the Society rooms.

over, and contain from 75 to 85 cords of 4 feet wood. Seven to nine days are required for burning, and from six to eight days more, after closing the vents, for the fire to go out, and cool ready for opening. The average yield of coal, is 1000 bushels for every 20 cords of wood."

The process of separating the crude ore to prepare it for use or exportation, is an interesting operation, and not generally understood. I have been obligingly furnished with the outline. "A kiln, the walls laid up of stone on three sides, about 30 feet long, 15 feet wide and 10 high, is the most approved size. In this kiln, wood, in logs, is placed on cross pieces, from 6 to 10 inches thick; on top of the wood, the iron ore is placed, as it comes from the mine, the largest pieces next the wood; the top of the kiln, when loaded, is covered with fine ore, which confines the heat in the kiln. In twelve hours, after firing, the front half of the kiln of ore is roasted, ready for the stampers. The ore is pulverized by heavy stampers, and then passes through grates on to seive plates, under the stamper trough. That which is fine enough passes through, and is carried, by water, into an adjoining room, whence it is taken, by elevators or cups, from trunking boxes, and dropped near the vats or tubs, in which the seives are worked. This separates the silex, and other foreign substances, from the iron ore. The seives are worked in water with a vertical motion, by a horizontal gig shaft. One seive, may work through about four tons, of clear ore, in twelve hours."*

The works of Penfield & Co., standing on Putnam's creek, in the central part of Crown Point, comprehend a forge of four fires, capable of producing, annually, one thousand tons of iron, and a foundery, with patterns and fixtures, for the manufacture of forge anvils, hammers, husks, and heavy shafts adapted to modern furnaces.

I have thus attempted to sketch some of the most prominent iron manufactories in the county of Essex. Numerous works of less magnitude, but entitled to nearly equal consideration, as they affect the great industrial progress of the country, are dissemina-

* Letter Col. C. D. Barton.

ted through every part of that district. The abstract of the census returns of 1850, presents the aspect of these establishments, their capacity and products.

No occupation requiring an equal investment of capital, and yielding the same returns, is so widely diffused in its operations, or creates to labor more employment, or yields it higher remuneration, than the iron manufacture. The price of the raw material in iron fabrics, is a trifling item of its value. That value is essentially formed by labor, skill and disbursements. The term of six months, and more frequently a year intervenes, between the commencement of these manufactures, and the realization of the proceeds of the sales, and this period involves a perpetual series of expenditures.

Upon these facts the manufacturer predicates his argument, that the policy of government should establish a fixed and specific system of revenue, which shall give him data and a basis to form his estimates and calculations in advance of his operations.

No one unacquainted with the varied processes of the iron business, can conjecture its vast ramifications, or the multiplicity of laborers and artizans employed in its various departments. The owner of the wood, designed for charcoal, is benefited by its sale. The chopper, the numerous operatives who prepare the charcoal, the teamster who hauls the wood and the coal, the measurer, the stacker, and those who occupy the various intermediate stations in this branch of the operation, find employment. The proprietor of the ore bed, the miner, the separator, the laborers and mechanics who conduct the various processes of the manufacture, the teams, the transporter, the wharfinger, the truckster, and sailors, who navigate the vessels which transport it, are all supported by its disbursements. All these masses are consumers of agricultural products.

The iron business is exposed to the most extreme and often disastrous fluctuations. Its history exhibits no change more signal and unanticipated than that which has just occurred. It has arisen at once, from the deepest depression, to the brightest prosperity.

In the spring of 1852, nearly every feeble, private establishment in Essex county was closed, and rapidly falling into decay and ruin. With few exceptions the ore beds were unoccupied; their shafts and chambers filled with water; the structures dilapidated and wasting, and the property without a purchaser and comparatively without value. The ore, which had formerly commanded ready and cash sales at $1 the ton, was then sold, with a feeble demand, at $1.50, upon long credit, and in barter trafics. One year from that date, mines which had been offered at $10,000, were refused at $40,000. The following table of prices exhibits some of the results which have marked this period:

	1852.	1853.
Nails,	$2 87½	$6 00
Blooms,	25 00	50 00
Bars,	30 00	55 00*

A change so vast and extraordinary has invigorated every department of the iron interest, and extended its inspirations of vigor and activity into all the pursuits of industry throughout the region. In many districts of Essex county, the value of real estate has increased one hundred per cent. in this period, and this change has occurred without any specific system for encouragement or protection by the national government.

It is a subject of surprize and regret, that the manufacture of the finer iron fabrics has not been introduced into Essex county. No extensive cotton or woollen factories have been established in this county, although the great consumption of their fabrics would seem to render it a highly eligible position for these manufactures.

Other Manufactures.—I visited, in the course of my survey, a novel but interesting establishment in Crown Point, the door-blind, sash and pale factory of the Messrs. Flints. It is of recent origin, but now gives employment, in its various occupations, to a large number of operatives. Several hundred articles, of most beautiful execution, are daily manufactured and prepared for market. A little village, of which this factory is the nucleus, is already clustering about the works. The superior quality of the pine and

* J. D. Kingsland, Esq.

cedar of this territory peculiarly adapts them to these delicate fabrics, and I regard this experiment as the incipient movement to an important and lucrative branch of business.

Starch.—The manufacture of this article from potatoes, has recently been introduced into Essex county, and promises to affect very favorably its agricultural interests. With a certain demand, even at low prices, the potato will be very extensively cultivated. A large and expensive factory was erected by Messrs. Page, Thomas & Taylor, in the autumn of 1852, upon the Au Sable river, about two miles below Keeseville. The following remarks explain this business: "We shall use," a correspondent states, "about 30,000 bushels of potatoes annually. The amount of starch produced from a bushel will vary from seven to ten pounds. The potatoes yield the most starch when just taken from the ground. We have four cents for our starch through the present season. It is a fluctuating article, however, being sometimes lower than this price, and often much higher."*

Paper.—The paper mill, of which Mr. Parks is the proprietor, stands upon the same floom with the starch factory, and is doing a large and profitable business in the coarser fabrics.

Black Lead.—The manufacture of the graphite or black lead, has not acquired that importance which we might infer from the vast deposits in the county, of the raw material, and the facility with which it can be procured. The quantity manufactured at the works of Mr. Arthur at Ticonderoga, in the year 1852, exceeded 61,000 pounds, and is susceptible of any expansion the demand will justify.

Glass.—In approaching the furnace of Hammond & Co., in Schroon, I observed the road formed for some distance by a very beautiful material, exhibiting a surface soft and lustrous as argillo work, and glowing in every shade and tint. This substance is the concretion of the slag or cinders of the furnace. When gushing from the stack in fusion, it will form and draw out, by a wire thrust into the boiling mass, an attenuated glass thread the entire length of the furnace, a distance of sixty feet. The glass pre-

* G. T. Thomas.

sents the most delicate and diversified coloring; although combined in the eruption from the furnace with extraneous properties. Thus beautiful in its crude and adulterated condition, may not this substance, purified and refined by science, be rendered subservient to the arts? Impressed with this conception, I immediately called the attention of Prof. Salisbury to the subject. The following analyses furnish the result of his examination:

100 parts of dry glass gave of

	Reddish purple.	Light blue.
Silica,	68.85	68.55
Manganese,	8.05	9.14
Iron,	4.15	3.91
Cobalt,	trace	0.05
Arsenic,	trace	0.12
Lime,	17.50	17.11
Magnesia,	0.15	0.12
Potassa,	0.85	0.43
Soda,	0.35	0.22
	99.90	99.65

"In the reddish purple glass, the coloring matter is principally manganese and iron. In the light blue variety, manganese, iron, cobalt and arsenic. Cobalt communicates to it the blue tinge, and arsenic the milky white color." In a subsequent notice he suggests that this slag may be favorably used in the manufacture of colored bottles and other ornamental glass fabrics. A distinguished friend to agriculture and the arts,* imagined that this

* The late John Delafield, Esq. The first proof sheet of this report was submitted to the revisal of Mr. Delafield, but long before the page was in press that contains the above allusion, he had been summoned, suddenly and in an unexpected hour, from the theater of his patriotic labors. I cannot allow the occasion to pass, without acknowledging the deep debt of gratitude I owed him, for the sympathy, the zeal and interest he manifested as chairman "on the Essex County Survey," and for the countenance and aid he extended to me in my arduous duties. His enthusiasm always ardent and zealous, in the promotion of every patriotic object, was strongly excited by the revelations exhibited in the progress of the survey of the vast resources and capabilities of that county, which had been little appreciated by even his investigating mind.

He had just entered on the threshold of a career, which promised fruition to the hopes and efforts of many years. Providence, whose inscrutable dispensation has removed him, at the period of his highest usefulness, can alone supply the void his death has created to the cause of Agriculture and practical science. This, however, is not the appropriate place to record the tribute due to his eminent worth and distinguished services.

crude material might be advantageously formed into dairy vessels; as glassware for that purpose is coming very much in request, and is esteemed of the highest utility. I conjecture it may be appropriated to still higher uses. I am able to state that the intelligent and enterprising proprietors of the furnace have determined to pursue their investigation, and I have entire confidence that their experiments will result in the institution of a new and valuable manufacture.

The Phosphate Mine.—The subject of the phosphate of lime has been sufficiently discussed in the mineralogical section of this report. The ultimate success of constituting this substance an important article of exportation is yet to be decided. The development of copper in this mine and in the other adjacent veins, is strongly indicative of the existence of copper lodes, as favorable in their extent as they have been ascertained by analysis to be in the purity of the ore.

Lime.—The immense quarries of limestone disseminated throughout the country, pronounced by Professor Salisbury so rare and valuable in their combinations with other substances, must afford profitable sources of business, when adequate facilities for the exportation of their products shall exist. Many of these limestone deposits are regarded by Professor as Salisbury not only useful for mechanical purposes, but his analysis presents the presence of components which may render the lime of Essex county a prominent article of exportation as an agricultural fertilizer. The experiments with this material to which I have adverted, tend to the same practical conclusions.

IRON ORE.

A remarkable, and to the public generally, novel feature in the industrial capacity of this county, is exhibited in the fact that a large amount of crude iron ore is annually exported from its mines to be used in the works of Pittsburgh and other localities in the midst of the ore beds of Pennsylvania, Ohio, and New-Jersey. The ores of Essex county doubtless possess properties which improve by amalgamation the quality of the iron of those states.

It is estimated that the ore exported in this trafic from the single town of Moriah will exceed one hundred thousand tons the approaching season. It will be recollected that several furnaces upon the shores of Lake Champlain are to be adapted in their construction to the use of fuel from the coal mines of Ohio and Pennsylvania. This interchange of the coal of these states for the ore of northern New-York, is full of promise for the future, and destined to become a commerce of great value and importance to both regions.*

In explanation of this subject, the following extracts from the communication of an esteemed correspondent, will be read with deep interest:

He says "I have collected the statistics with as much accuracy as possible, from the business men themselves. I will first give you the amount of ore raised and sold in the last year, and then that raised sold, and contracted the present year.

The business of the last year:

1. Amount of iron ore exported from Moriah,..... 26,800 tons.
2. Ore sent out of the State,..... 9,630 "
3. To which States sent, and the quantity to each:
   - To Pennsylvania, ... 4,400 tons.
   - Virginia, ... 1,300 "
   - Vermont,..... 2,800 "
   - Maine,..... .... 1,065 "
   - Maryland, ... 65 "

Business of the year 1853:

1. Whole amount of ore contracted to be exported from Moriah,..... 107,500 tons.
2. Amount sent out of the State,..... 41,500 "
3. To which state sent and the quantities to each:
   - To Pennsylvania,..... 16,000 tons.
   - Virginia, ... 3,500 "
   - Massachusetts,..... 10,000 "
   - Maine,..... 1,000 "
   - Ohio,..... 1,500 "
   - New Jersey, ... 1,500 "

* I am indebted to the zeal and intelligence of the Rev. C. Ransom of Moriah, for the very interesting facts and statistics on this important subject, which are embodied in the text.

Two furnaces are expected to go into operation soon, and will use anthracite coal. They are calculating to manufacture 10,000 tons of iron the present year. The demand for ore is very great. Our people could and would greatly augment their present contracts, if by any possibility they could get the ore raised.

The ore sold the last year, delivered at the lake, for $1.50 per ton. The present year they sell out of the "Old Sandford bed," chunk ore, from $2.00 to $2.75. From the same, separated by machinery, $4.00. From the "New bed" they sell pure chunk ore at $4.00 per ton, and from the same bed separated by machinery, at $5.00 per ton. This is about the price of the "Fisher" and "Barton ore;" also, pure chunk ore from the "Cheever bed" is sold at $3. This ore requires no separation by the machine."*

The abrasions from the deposits of iron ore, known by this circumstance, to exist in the bed of the lake, are thrown in great quantities upon the beaches in several localities along the shores of Champlain during the high water and storms of spring. These masses are almost pure iron and for a considerable distance often accumulate to the depth of several inches. Hundreds of barrels of this "iron sand" are annually collected and exported to New-York, from whence it is diffused throughout the country, as a most valuable material for stationer's sand. Many individuals find constant employment in the collection and preparation of this substance.

PUBLIC IMPROVEMENT.

Several projects of public improvement, now in agitation, are directly and intimately associated with the prosecution of an interchange of these various commodities. The investigations contemplated by my duties, in reference to the resources and prospects of Essex county, would be imperfect and inadequate, were I to omit a reference to those questions, which, although of great public importance, must exert a momentous and specific

* Rev. C. Ransom's letter. Since the above was prepared, further explorations of the "Little Pond ore bed" have more than confirmed the anticipations expressed in a preceding page, of the magnitude and value of that immense deposit. A large amount of ore has been exported and contracted from that bed, during the autumn of 1853.

bearing upon the industrial occupations and progress of the Champlain valley.

The prominent idea in the first of these schemes, originally contemplated an artificial communication between Port Kent, on Lake Champlain, and Boonville, on the Black River canal. The system of lakes, in the interior, which are united by a series of rivers, indicate the course, and were designed to form the route of this improvement. This conception has been partially realised by the construction of a plank road from Lake Champlain to Franklin Falls, on the Saranac river, which approaches the point on that stream, where it was proposed to commence the projected navigation, and obviates the most difficult and expensive part of the plan.

The remarkable arrangement of these waters, for this purpose, is fully delineated by Prof. F. N. Benedict in his elaborate and able report on the subject.* His report is based on scientific surveys and careful recognizances, and has been corroborated by various subsequent explorations.

It appears from these authorities that nature has formed a practicable route for this improvement, in the direct line from Purmort's Rapids, a point in the Saranac river, on the line between Essex and Clinton counties to the Moose river, twenty-one miles from Boonville, with which the contemplated navigation must be connected by a canal or railroad. This route, starting from Purmort's Rapids passes through the county of Essex, by the Saranac; along the lower and upper Saranac lakes; the Raquette river, Long, Forked and Raquette lakes, and the intervening streams, to the series of Moose river lakes, and thence down that stream to the western termination. This track may readily be traced on the very accurate map that accompanies this report, which has been arranged for it with great care.†

The following impressive facts are established by these investigations. There exists, Prof. Benedict states, in this direct course, a navigation competent to steamers, of fifty-six miles, and by small boats of fifty-five miles further. A distance only of

* Senate Document, No. 73, 1846. † By Col. C. M. Watson.

seven and one-fourth miles occurs along this route, partially or entirely interrupted by obstructions which will require removing, to complete the navigation the whole line of one hundred and eighteen miles. The lateral navigation, branching from this main trunk, formed by the rivers and lakes, which are mingled with those above enumerated, affords an additional communication, navigable by steamers, of thirty-three miles, and by small boats of ten tons burthen, of thirty-eight miles more, with an intervening obstruction of only one-half mile. The result shews the existence in that sequestered wilderness, of a navigation adapted to steamboats of eighty-nine miles, and to small boats of ninety-three miles, which is obstructed by natural impediments interposing in different localities, and embracing in the aggregate, the trifling distance of seven and three-quarter miles. The total length of the proposed improvement is one hundred and ninety miles. The obstacles which exist chiefly occur in low and marshy ground, and may be readily surmounted. Mr. Benedict exhibits minute calculations, in which he estimates the expense of improving the whole one hundred and ninety miles, which embraces

the lateral branches, at	$312,950
with an average cost per mile of	1,611
The cost of opening the direct route,	292,950
at an average expense per mile of	2,482

This estimate contemplates merely an improvement of the existing navigation and surmounting the impediments which occur along the seven and three-quarter miles.

In a subsequent calculation, founded upon the scheme of creating an ample and perfect intercourse by railroads and canals, from Lake Champlain to the Black river, Prof. Benedict presents another table of estimates.

From Boonville to McLenathan's Falls, which is now Franklin Falls, at the termination of the plank road, he calculates the expenditure as follows:

A railroad from Boonville, 21 miles,	$291,800
Dams, locks and canals from that point to Franklin Falls, a distance of 121 miles,	450,000

These estimates are intended for mere approximation, but from the experience and conceded capacity of the engineer, are deemed highly accurate and reliable. The cost of a railroad from Franklin Falls to Port Kent, now supplied by the plank road, was estimated in this table at $771,980.

The lateral branches of this navigation, included in the survey of Prof. Benedict, would penetrate deeply towards the west into the forests of St. Lawrence, Hamilton and Franklin counties, and on the eastward along the western limits of Essex, almost touching the vast iron masses of the Adirondacs, and opening their resources to the wants and enterprise of the coal mines of the west. In commenting upon other physical features of this district, Prof. Benedict advances in reference to the lateral improvements to which I have alluded, the following forcible considerations: "Extensive lines of small boat navigation, with very few and short interruptions, traverse all considerable sections of the surface." The aggregate extent of these lines is probably not less than three hundred miles, all of which could be rendered navigable for boats of fifty tons burthen at comparatively trifling expense. Thus the great mineral district of Newcomb, may communicate with Long Lake through the rich chain of lakes on the upper Hudson. A line of more than fifty miles in length extends from the head of Long lake to Hill's falls, eight miles below Tupper's lake, in which a portage of one mile and a quarter, embracing seventy feet fall, constitutes the only impediment to existing navigation. The Moose, Beaver, Saranac, and various other rivers furnish similar facilities. In like manner, the head waters of Beaver river may communicate with Raquet river, through Bog river and Big and Little Tupper's lakes; or with Long lake through Little Tupper's lake and Forked lake."

The immense results, which the consummation of this project may produce to the public interests of the State, it is not my province to discuss. I may, however, suggest that a territory which occupies an area of more than three millions of acres, exceeding the superfice of more than one State, and now slumbering in an unbroken solitude, would thus be aroused into practical existence, and moved by the pulsations of industry and enter-

prise. An increase of millions of acres might be added to the productive agricultural domain of the State; masses of a vigorous population would be given to the aggregate of her people; millions of dollars to the taxable wealth of the State, and an incalculable amount poured into the revenue of the public works.

To the business and prosperity of Essex county, the success of this design must be fraught with the most beneficial consequences. It would create an access to forests, teeming with timber, which may be estimated by millions of trees, and with wood for coaling purposes, that generations cannot exhaust. These sources of wealth would yield a boundless tribute to the work shops and mills of Essex county. The hardy population, thus attracted to that wilderness, would become purveyors to the wants of her manufacturers, consumers of her products, and soon producers of the agricultural commodities, her manufacturing progress will always demand. Instead of holding the portals to a howling wilderness, Essex will then occupy the central position of a populous and thriving region. The growing intercourse between northern New-York, and the west, would by this agency be eminently facilitated and economized.

Ship canal.—Another project to which I alluded, contemplates the construction of a canal navigable by vessels of 500 tons, to connect the St. Lawrence with the waters of Lake Champlain. The commerce of the lake has much increased during the last few years, partially by the augmented resources of its own territory, but more directly, by the greater facilities afforded to commercial intercourse with Canada. During this period, crafts of a novel character have appeared upon its waters, readily distinguished from the bright, trim, and rapid vessels of the American marine, by their black sides, dark sails, and slow and awkward motion, sailing only before the wind. These are Canadian vessels first designed for the navigation of the St. Lawrence, but which have been floated over the rapids of the Sorel. Vessels from the upper lakes, which have entered Champlain by the Chambly canal, occasionally appear at its port. The enterprise, however, is rare, and accomplished with difficulty.

The following statistics will exhibit the condition, and rapid progress of the commerce of this lake.

VESSELS CLEARED.

American.

	No.	Tons.	Crews.	
Vermont,.....	268	72,064	4,679	1847
do	477	104,114	4,315	1851
Champlain,.....	231	46,132	3,483	1847
do	327	67,092	4,028	1851

Foreign.

Vermont, ...	310	17,734	1,130	1851
Champlain,.....	8	360	24	1847
do	335	21,708	1,458	1851

The great increase is exhibited in the aggregate of the American and foreign vessels and tonnage.

I have referred to the valuable and rapidly increasing intercourse which now exists between northern New-York, and the States bordering on the inland seas of the west. These States are large purchasers of the iron fabrics of Essex county, while the manufacturers of that county consume an immense amount of their pork, flour, and wheat. This interchange of commodities, is of the highest importance to both sections of the Union, and unfettered by the existing embarrassments, would rapidly expand. The nails and machinery of Essex county, are subjected to a canal transportation in New-York alone, of more than four hundred miles; or if carried by the Ogdensburgh railroad, they are exposed to the expense, risk and delay of repeated reshipments, before they reach the western navigable waters. The same restrictions weigh upon the transit of the products of that region, to Champlain. All these impediments will be essentially obviated by the proposed ship canal. The consummation of this gigantic scheme is deemed inevitable and approaching.

The limited sphere of this report, will not allow any extended exposition of this interesting subject. I only refer to it, as it di-

rectly affects the interests and advancement of Essex county. No false and contracted jealousies, excited by alarm for the prosperity of other public works, should resist or retard this great purpose. A commerce such as floats upon the western lakes, that increases at the rate of seventeen per cent. each year, and which throngs by its excesses, every avenue that is formed, demands, and will sustain all the facilities for its accommodation that human energy or enterprise can create. The space of twenty miles intervening between Caughnawaga and Lake Champlain, is the only remaining obstacle to a direct communication between that lake and the great thoroughfares of the west.

The construction of a ship canal, which shall form this link, may be pronounced a fixed and unalterable purpose in the policy of the Canadian government, that public sentiment has initiated and strongly fortifies. A charter has been granted by the provincial parliament, to a company to be organized for this object; surveys and estimates have been completed, and it is computed that the work may be accomplished at a cost not exceeding five hundred thousand pounds.

A measure connected with the proposed canal is contemplated, which demands earnest consideration, from its bearing upon the future commerce of Lake Champlain. A survey of the rapids and obstructions of the St. Lawrence, above Montreal, is in progress, under the auspices of the Canadian government, and is so far matured, that the ablest engineers assume its entire practicability. It is computed that an expenditure of £3,000 in erecting dams and blasting rocks which now obstruct the channel, will enable vessels of 500 tons to pass down the river to Montreal, with perfect ease and safety.*

It is estimated that a steamer descending the St. Lawrence, and passing through the projected canal from Caughnawaga, might reach any port on Lake Champlain in four and a half days from Cleaveland, and deliver coal at less than 4½ and flour at

* Report of commissioners of public works, Canada, 1851.

one shilling sterling per barrel.* Coal might thus be laid down at the mouth of a furnace upon the lake, in large quantities, with celerity, precision, and economy. The vessels which import it would bear in their return freight, the iron fabrics and crude ore of New-York. The only delay and charges incident to canal transit to which these vessels must be subjected, would be that of the Welland canal of twenty-eight miles, and the twenty miles of the Caughnawaga canal. In the return voyage, these expenses would be increased by the passage of the short canals around the rapids of the St. Lawrence.

Nor do these well defined and tangible visions rest here. In the words of an eminent civil engineer of Canada, "this canal will shortly be built. It will make Lake Champlain the great highway between the Hudson river and the western lakes, the quickest and cheapest route by water. It will enforce the enlargement of the Northern canal, at the Whitehall gates, of which we shall be thundering with vessels of 500 tons for admission. Failing here we shall give their freights to the railroads on each side of Champlain."† The eventual enlargement of the Champlain canal will thus secure another magnificent result to the industrial pursuits of Essex county, which will flow from this project.

Another proposed improvement, intimately blended with this subject, is entitled to the tribute of a notice, although pronounced impracticable by those whose science and intelligence enable them to speak with high authority. This plan, proposes a communication to commence at Lake Huron, traversing Lakes Matouline and Simcoe, and the Seven River, to enter Ontario at the city of Toronto. It is asserted that this route, while it shortens the distance between Lake Huron and the Atlantic, five hundred

* I have been furnished by H. Green, Esq., of Keeseville, since writing the above, with the following statistics: He estimates the present cost of transportation of a barrel of flour from Cleaveland to Port Kent, 50 cents, and the average time required, about two weeks. He says, "there is a coal to be purchased at Erie, Pa., at a low rate, which would perhaps be used for heating iron, and in blast furnaces for making pig iron, if the transportation could be cheapened by a ship canal, to the waters of Lake Champlain. The Anthracite coal at the present time, costs about $6 per ton at Port Kent."

† T. C. Keefer's letter to author, 9th March, 1853. I am indebted to Mr. Keefer for a mass of valuable works on this subject, embracing his own able productions and other public documents.

miles, can be perfected by an artificial navigation of only forty-eight miles.

The canal, at the Sault of St. Mary's, is another link in this stupendous inland navigation. Penetrating still deeper into futurity, we may contemplate Michigan united to the waters of the Mississippi. An internal communication thus created, connecting New Orleans and the far west with the east and north, would bind together the union in the triple chain of proximity, commerce and social intercourse. Conjecture hesitates in attempting to estimate the immense consequences in the future progress and prosperity of Northern New-York, which will result from the existence of a ship canal at Caughnawaga. No longer a remote and sequestered region, it will at once attain a commanding attitude upon the great highway of western commerce. Essex county will then enjoy a wide and perpetually expanding market, for all the products of her mines, her workshops and furnaces.

Plank Roads.—Several plank roads in the last five years have been constructed in Essex county. One of these extends from Port Henry to the ore beds in Moriah; another from Westport to Elizabethtown, and a third commencing at Port Kent, and passes along the Au Sable valley to Franklin Falls, in Franklin county, a distance of thirty-five miles. The latter is incomplete, however, for about five miles at one point. A branch of this road runs from Keeseville to Port Douglas. These great works are arteries to the industry of the country, and communicate vigor and animation to every district they enter. In the transportation of heavy and bulky articles, and upon short and lateral routes, plank roads are esteemed more beneficial to an entire community than even railroads. All classes participate in the facilities and advantages they afford. One fact will illustrate their important effect upon the manufacturing interests of this region. The price of transporting iron and nails from Au Sable Forks to Port Kent, a distance of fifteen miles, was formerly $2.50 per ton. The cost of transportation by the plank road, a distance of seventeen miles, between these places is now $1,25 upon the same commodities.

Mule teams have been extensively introduced upon these roads. They live longer than horses, are more hardy and less liable to accidents and disease, are fed with less expense, and are almost as powerful in their muscular strength.

Railroads.—A company has been organised for the construction of a railroad between Plattsburgh and Whitehall. This will traverse the whole length of Essex county, and perfect a continuous and most direct communication between Montreal and New-York.

In exploring the wilderness, which envelopes the "Whiteface mountain," I pursued the track of the recognisance, made in the year 1837, of the projected railroad, intended to connect the St. Lawrence with Lake Champlain. Some mysterious and inscrutable reason seems to have influenced the engineer in running his line up the slopes of Whiteface, to a point so elevated, that the route was necessarily pronounced impracticable and abandoned, while at the base of the mountain, and in view of his position, he might have found an eligible track, marked out by the emphatic hand of nature. Had the summit at this point been surmounted, and the plains of North Elba reached, it was conceded that no further impediments existed to the shores of the St. Lawrence. I advert to this subject, under the deep conviction, that the hand of public policy or individual effort will soon unlock the treasures slumbering in these recesses, and that this project, so singularly defeated, may be made the instrument of accomplishing the great result.

Marble.—I have already fully noticed the marble quarries of Essex county, and will only add, that vigorous measures are contemplated in opening the quarry at Crown Point, the approaching summer. When we consider the immense deposits of this material, its exceeding beauty and variety and great value, the anticipation may be cherished, that these quarries will soon afford a business, secondary alone in magnitude and importance to the iron manufactures of this region.

Ship-yards.—Several of the first class vessels, which navigate the lake were built in the yards of Essex county. This business,

especially in the towns of Essex and Willsboro', is of very considerable importance. The tamarac, cedar and oak timber, appropriate to this use, is abundant in the county, and of the most excellent quality.

Sailors.—A large class of the population, contiguous to Lake Champlain, is connected with its navigation. In the year ending June 30, 1851, there were entered in American vessels in

Vermont district crews,	4,700
Champlain district,	4,211
Total,	8,911

This occupation forms an admirable school for the acquisition of nautical skill and experience, and has created a bold and expert body of mariners. If the public exigencies should hereafter demand the presence of a national fleet upon the waters of Champlain, her own marine would promptly supply daring and efficient crews.

COMMERCE OF LAKE CHAMPLAIN.

Extract from Andrews' Report on "Colonial and Lake Trade," House Doc. 136, 1852.

"These results are derived and estimated from the canal office, Whitehall.

District of Vermont.—The amount of assorted merchandize received into Lake Champlain in 1851, was 125,000 tons, at $1.75 per ton.

Average valuation,	$21,875,000
Amount of produce received from the lake,	3,515,895
Add for coasting,	1,000,000
Total commerce of the lake,	$26,390,895

The Canadian trade for Vermont district, for 1850 and 1851:

	1850.	1851.
Exports of domestic produce, ...	$651,677	$458,006
Exports of foreign merchandize,.....	294,182	309,556
Total exports, ...	$945,859	$767,572
Total imports, ...	607,466	266,417
Total, ...	$1,552,325	$1,033,989
Subtract total of 1851,.....	1,033,989	
Decrease of 1851, ...	$519,336	

Tonnage in the Canadian trade two years, as follows:

	No. vessels.	Tons.	No. vessels.	Tons.
1851,.....	788	94,:35	695	91,967
1850,.....	818	122,813	731	105,359

The aggregate shipping of Lake Champlain, both foreign and coastwise, is represented to have numbered 3,950 entrances, measurement, 197,500 tons, and employing 11,850 men and boys, with a corresponding number of clearances, with the same measurement and crews. The enrolled tonnage of this district in June, 1851, was 3,240 tons of steam, and 692 tons of sail.

Tonnage.

Inward American, ...	166 steam.	56,421 tons.	
do do	388 sail.	17,490	"
Total, ...	504	73,911	"
British, ...	122 steam.	9,566	"
do	162 sail.	10,758	"
Total, ...	284	20,324	"
Outward American, ...	147 steam.	58,021	"
do do	318 sail.	17,020	"
Total, ...	465	75,044	"

Outward British,	119 steam.	9,321 tons.
do do	111 sail.	7,602 "
Total,	230	16,923 "

Value of produce imported from Canada in bond,	$311,512
" imports from Canada,	251,211
" goods of domestic produce and manufacture exported to Canada,	458,006
" goods of foreign produce and manufacture exported into Canada in bond,	200,854
" property cleared at Whitehall for the south,	3,515,895

Champlain District.

	1850.	1851.
Exports of domestic produce,	$322,378	$375,549
" foreign merchandize,	316,843	373,453
Total exports,	$639,221	$749,002
Total imports,	435,383	294,284
Total commerce,	$1,074,604	$1,043,286

	No. vessels.	Tons entered.	No. vessels.	Tons entered.
1851,	598	123,229	598	123,229
1850,	788	120,294	754	116,931

The decrease in 1851, it will be perceived, affects only the number of entrances and clearances. The comparative tonnage being an increase on the preceding year. The tonage enrolled in this district, June 30th, 1851, was

Steam,	917 tons.
Sail,	3,291 "

Canadian Trade.

Imports in American vessels,	$1,019,039
Exports,	24,246

Tonnage.

Inward.	Tons.	Outward.	Tons.
American steam,....	90,436	American steam,.....	90,436
" sailing,...	8,139	" sailing,.....	8,135
Total,.....	98,575	Total, ...	98,571
British steam,.....	3,899	British steam,.....	3,899
" sail,.....	20,759	" sail, ...	20,759
Totals,.....	24,658		24,658

Duty collected on imports in American vessels, ...	$46,639
do do British vessels,.....	5,210
	$51,849
Imported from Canada in American vessels, ...	$228,241
do do British vessels,.....	24,246
Total,.....	$252,487
Value of domestic goods exported,.....	$375,549
" foreign goods exported,.....	$267,587
" " entitled to drawback,.....	105,866
Total,.....	$373,453

The whole value of the commerce of Lake Champlain, was for 1846, about eleven millions; for 1847, seventeen; and for 1851, about twenty six millions of dollars.

PART VI.

AGRICULTURE.

In describing the topographical features and arrangement of this county, in the preceding pages, I have sufficiently noticed its agricultural capabilities, and the soil and climate of its various districts. That review indicates a great diversity and singular combination of soils. They adapt the county to the cultivation of every crop, congenial to its varied climate.

The same transitions in its agricultural progress have marked every section of this county. The natural fertility of the soil, when first opened to cultivation, yielded abundant harvests; injudicious tillage gradually exhausted its productive elements; the cause which tended to these results ceased; new interests in the management of the land were excited, and a general improvement in the farms was produced by an ameliorated system of husbandry.

The county still exhibits these various phases of its agriculture. Some farms are just emerging from the primeval wilderness; some are impoverished and exhausted; others are commencing the process of renovation; while many others have attained a degree of improved culture and fertility, scarcely exceeded by any portion of the State.

The lumber business in every region, appropriate to its pursuit, captivates the mind of the pioneer, and allures him from other occupations. It has exerted a depressing influence upon the agricultural interests and progress of Essex county. The winter was devoted to this employment. Every product of the farm calculated to return fertilizing elements to sustain and

promote its productivness, were borne into the forests and there consumed. At the approach of spring, the settler returned to his farm, himself and his team, prostrated by the severe labors of the winter, and illy prepared to perform the recurring duties which pressed upon him. He conducts his farming operations imperfectly and without skill. He has no deposits of manner to apply to his wasting soil. The earth, by constant tillage, without renovation, becomes impoverished. Each succeeding year witnesses a decrease in the harvest. The land, exhausted by this improvident management, is denounced worthless in its soil, and without fertility, and abandoned to briers and desolation, or is sacrificed to some shrewd purchaser, and its owner, emigrates to new scenes, to pass through the same alternations. In this stage of society, agriculture is the secondary and subordinate occupation.

The lumbering business closed, the farmer resumes his first duties, and yields to the land the labor and care required for its successful cultivation. In a manufacturing district, and such is pre-eminently Essex county, the teaming upon the road, which abstracts so much of the time of the farmer, and the fertilizing riches of the farm, from his land, exercises a similar, although far less disastrous effect, upon its agricultural prosperity.

Other causes of the slow progress in the agricultural improvement of this county are suggested by an intelligent correspondent,* in reference to Crown Point, but its traces are exhibited in various other parts of the county. "Conflicting titles have cast a shade over some large tracts," and in other districts "much of the land has been occupied under contracts, in their terms liable to constant forfeiture." Tenures of property so frail and contingent in every region, paralyse the efforts of industry and enterprise.

No uniform system of tillage seems to have been observed, immediately succeeding the clearing and burning of the fallows. Wheat, rye and oats were often, particularly on the adhesive and clay soil dragged in upon the burnt surface. In other parts of the county, potatoes or corn were the first crop. This husbandry

* C. Fenton, Esq.

is called "the Indian mode," and is derived from their practices. The seed corn was dropped into a hole, formed by the stroke of an axe or hoe, and covered. Beyond this, little labor was required until harvest. The potatoe was planted by a very similar process; the earth being pulverised sufficientiy by the hoe alone, to form a slight hill. The ledge I have mentioned in Jay, yielded at its first occupation, by this tillage, crops of corn averaging fifty bush els to the acre.* The early settlers relied chiefly for pasturage and winter fodder upon the wild grasses and herbage, bountifully supplied by the beaver meadows, the marshes and glades of the forests. The indigenous grasses of this region are very numerous, and many of them highly nutritious and valuable. Several varieties of the ferns, brakes and rushes afford excellent hay, particularly for sheep. The instincts of the deer indicate to the pioneer the most useful of these resources.

The "Deer weed," a plant which springs up in great luxuriance where a conflagration has passed through a woodland, is a favorite food of this animal. I was assured by a settler who had deeply penetrated the Adirondacs, that he found this weed an invaluable resort for pasturage in summer, and affording a sufficient substitute for hay in the season of foddering. A wild grass, pronounced the Poa compressa of the botanist, and known in popular language as the "blue joint," I am confident is well adapted for cultivation, and may be rendered highly valuable, if introduced into our low meadows. I understand the experiment has been successfully tested in the town of Minerva.† Its growth is spontaneous along the margins of marshes, and upon ridges of earth excavated in forming ditches through wet lands. This grass often attains more than five feet in height, stands thickly, spreads a massive vegetation, and yields, it is estimated, three and four tons to the acre. Cattle eat it with avidity, and in its nutritive qualities is esteemed scarcely inferior to herd's grass. Among the useful indigenous grasses I may enumerate the panacum agristoides, poa pratensis, calamagrostis inexpansa.

Common and numerous, but less valuable, there occur a large list of coarser grasses, various species of the carex family, of the

* Mrs. Blish, Jay. † Letter of A. P. Morse, Esq.

scirpus, and species of the agrostis, of junceae and felices, the rushes and ferns.

The panicum crus galli, or "barn yard grass," may almost assume a position with the cereal plants. It is peculiarly analogous in appearance and properties to the millet. Yields an abundant crop, but is only preserved as a cheap and nutritious food for poultry.

The "June grass" is a light, small and delicate grass, that appears early and anticipating the heavier vegetation, is an important auxiliary in the spring pasturage.

A native grass, grows intermingled with the ferns and rushes, in great profusion, upon the marshes which abound in the county. It is copious and luxuriant in its vegetation, and affords an abundant product. I have not been able, by the specimens I collected, to determine its botanical name. This grass is congenial to neat cattle and sheep, but is fatal to horses, although they eat it freely. It is armed with inverted awns or barbs. These are innoxious to ruminating animals, which thoroughly masticate their food before it passes from the stomach; but the grass with the awns attached, entering into the intestines of the horse undigested, fastens upon the inner membranes, and irritating them, produces inflammation, ulceration, and ultimate death. The very serious losses which have resulted from this cause, seem to require a notice of the fact.

A plant thrives in great beauty and luxuriance about the garrison grounds at Crown Point, and seems peculiar to that locality. It is trifolium procumbens, or yellow clover, and was doubtless introduced during the occupation of the fortress by the French or English armies. Useful for hay, it possesses invaluable qualities for pasturage, and must be eminently adapted for "soiling." It mantles the earth with a heavy, rich, and beautiful covering, and affords a delicate and nutritious food, which is constantly renewed from early spring to the severe frosts of autumn, in a series of the richest crops. I am informed that it is remarkable for its abundant yield of seed.* It is evident that the cultivation of this clover would ensure the most beneficial results.

* Hon. John C. Hammond.

I hesitate to decide, whether I am authorized in classing the white clover, trifolium repens, with the indigenous plants of this region. It is certain that it soon appears, by a spontaneous growth in every opening of the forest, and upon soils of sand and gravel formation. Where gypsum has been applied, or sheep have ranged, it is immediately introduced, forming a massive sward, which constitutes a most important basis for future tillage. The presence of a white clover turf uniformly secures on sandy soils an excellent corn crop with an application of plaster.

Red Clover, Herds grass and Red Top are the grasses almost exclusively in use for laying down land. The quantity of seed, the time and circumstances of sowing, are governed by no established rules, but are controlled by the nature of the soil, the objects contemplated, and the judgment or caprice of individuals. The same diversity of opinion on these subjects exists in Essex county, that prevails in every agricultural community. I think, the "Red Top" grass, has grown in the favorable estimation of farmers, and that its culture is becoming more generally disseminated. Experience proves it to be better adapted to high and dry soils, than was formerly supposed. It certainly forms a more enduring turf than Herds grass, and is believed to yield a heavier crop of hay.

Wheat.—For a series of years succeeding the first occupation of the county, wheat was the predominant crop, particularly in that section of it which lies upon Lake Champlain. The average yield on new land, was about twenty-five bushels to the acre. This culture gradually declined, under the effects of a change of seasons, the exhaustion of the quality of the soil adapted to the production of wheat, and the ultimate infliction of the wevil and rust. It was virtually abandoned, until the introduction of the Black Sea wheat, which has given it a new and successful impulse. Winter wheat is rarely cultivated. The Tea wheat, in connection with the Black Sea, are the varieties chiefly approved. The harvests, which immediately succeeded the introduction of the latter, averaged about forty-five bushels to the acre. The product has progressively deteriorated, until at this period, the common product will not exceed fifteen bushels the acre. I im-

pute this fact to the use of the seed from the same vicinity for a succession of years. A general, although I think not uniform exemption from the attacks of the wevil, is claimed for the Black Sea wheat. Spring wheat is usually sown about the 1st of May, but many farmers delay until June, believing by that practice they escape the fly. The cultivation of wheat in several districts of the county, particularly in the towns of Crown Point, Essex and Willsboro', has a second time attained considerable prominence. In the former, which embraces, as we have seen, heavy manufacturing works, it is estimated that the production equals the consumption. The sale of wheat from the town of Willsboro', in 1852, was computed at three thousand bushels. The culture is now constantly extending. Upon the fertile plains of North Elba, it yields an average crop of forty bushels; on the elevated valley, in the vicinity of the Adirondac Works, the average is about twenty-two bushels. Mr. Ralph obtained, in 1852, a crop, on the company's farm, of thirty-one and a quarter bushels to the acre.

Rye.—In many towns of Essex county, Rye was formerly the predominant crop. Wilmington, for a long period, was almost exclusively devoted to its culture * The towns of Schroon and Lewis, until recently, have made it an important element of their husbandry. It is now very generally abandoned as a prominent crop, except upon light and gravelly soils. In some districts, in which these earths prevail, it is still profitably cultivated. In the enhanced demand for horse feed, Rye has, within a few years, come much more into demand, and it is believed in this connection it will become a valuable and remunerative product. Rye is much esteemed for this purpose, as constituing a heavy and nutritious feed when ground with oats and corn in the ear. Many observing farmers insist that a bushel of Wheat may be produced on the same soil which will yield that quantity of Rye. A decided advantage in the cultivation of Rye, results from the fact that the sandy soils favorable to its production, are not liable to

* I omitted to state, in the appropriate place, that numerous distilleries were early established in this town, and in other sections of the county. During the war of 1812, the whiskey manufacture was an extensive and highly lucrative occupation in this region. Not a vestige of these works, I believe, remains.

be affected by the frosts and heaving of the earth in the winter. This husbandry will always be promoted by the fact that it may be conducted at a period when the other occupations of the farm are not urgent. A variety of this grain, known as the "Multicole Rye," has been introduced in this county within a few years, and promises the most favorable influence in extending this culture. It is distinguished by its hardy character and vigorous growth. It bears a head and kernel almost twice the size of the ordinary black rye, and largely exceeds the product of the latter.

The immense consumption of horse feed by the great teaming occupation of this region, creates a ready and important demand for Rye, Wheat and Oat-straw, which cut and mingled with grain, affords a highly valuable provender. The average product of this crop may be estimated at about fifteen bushels per acre. No grain is more essentially affected by the period of sowing. In Essex county, from the 1st to 10th September is regarded as the season most favorable to this process. When this term is passed, the experienced cultivator prefers to delay to the latest hour allowed by the approach of winter. The grain, which is early sown, becomes firmly and deeply rooted, and thus protected from the action of the frosts, while numerous sprouts proceed from the same germ. Deposited late, the grain does not sprout until spring, and thus the risk is avoided to which the intermediate sowing is exposed, of an insufficient rooting, sparse and feeble sprouts, and the effects of winter. The pasturage of sheep upon Rye, on light and open soil, alike in the spring and fall, is esteemed highly beneficial to the crops, by pressing the earth about the roots of the plants, and in producing an increased vegetation. This crop is considered in the town of Newcomb (Adirondac), alone inferior to oats in its successful culture, yielding usually about eighteen bushels to the acre.*

Oats.—The amount of this crop, produced in Essex county, exceeds the sum of all the other grains combined, and probably equals it in value. It is cultivated on all varieties of soil, and in every district of the county. The heaviest crops I examined standing in the field, were those in the openings of the forests

* A. Ralph.

upon the slopes of the Adirondacs. Entire fields I estimated, would yield fifty bushels to the acre. The vegetation of these fields was remarkable for their great luxuriance. The product of this crop in the town of North Elba has been extraordinary, yielded as it is, from the native fertility of the soil, with little aid from artificial culture. I received authentic statistics of several crops affording, under these circumstances, over one hundred bushels to the acre; in one instance, in the year 1851, a yield at the rate of one hundred and thirty-two bushels, and in another of one hundred and twenty bushels to the acre, while the average yield of the whole town is at least forty-five bushels per acre. The successful cultivation of this grain in the town of Newcomb, is highly favorable to the future progress of the Adirondac works. The heavy and expensive transportation of hay and grain was formerly a very serious impediment to the prosperity of that establishment. The average yield of Oats in that town is about thirty bushels on new land, and forty bushels on old land.

Oats are indiscriminately cultivated on all lands, for seeding down and as a subduing crop. For the former purpose it is less esteemed, however, than some other cereals. Early sowing is desired, as it generally secures a more abundant growth, and a heavier and larger berry. The usual term of sowing is from the 20th of April to the 20th of May, although the time is often extended far into June, and frequently with successful results. Oats and peas, mingled in such proportions as the judgment or experience of the cultivator suggests, is often a favorite crop. This culture is peculiarly successful upon light soils. Oats alone, are found well adapted to rich soils, although the application of barn-yard manure, especially when green and unfermented, is considered injudicious. Thirty bushels may be assumed as the average crop of the county.

Peas.—The cultivation of this grain is extending in the county, and is highly esteemed as a renovating and subduing crop. Peas are regarded as a valuable substitute for corn, in producing pork. They are peculiarly efficient and useful, as a subduing crop, after the first plowing of new lands, infested with weeds and bushes. They leave the earth clean, extirpate the noxious vegetation, and

leave the ground in an appropriate tilth for succeeding culture. Early tillage is esteemed very important to the success of this crop. The average product is about twenty bushels per acre.

Barley.—I found few fields of Barley, except in the town of North Elba, where it is extensively cultivated, and yields valuable returns. This crop averages, in that town, thirty bushels, but often reaches sixty bushels to the acre. It supplies for many purposes the use of corn. The neglect of this culture is, I think, to be regretted. In a region where animal feed is so much in request, Barley might be advantageously cultivated as a provender for teams and swine.

Beans are seldom planted in Essex county as a distinct crop. None, I think, would be more valuable and remunerative. This crop is usually cultivated in connection with corn. The straw of the Bean is greatly valued by many farmers as a fodder for sheep. The recent introduction of the planter, which obviates the strong objection to the culture of this crop, the tedious and expensive planting by the hoe, is exerting a favorable influence in promoting its cultivation. The importance of the Bean as a prominent crop, is becoming appreciated by the intelligent farmers of the county.* A Mexican bean, appropriately named "Buena Vista," has been recently introduced through the agency of Gen. Churchill, of the army. It is small in size, and of a deep yellow color, is eminently prolific, oleaginous and nutritious, and supposed to be exempt from the laxative properties of other beans.

Buckwheat and *Indian Wheat*, especially the former, are very largely cultivated, although the majority of farmers, I think, deprecate the husbandry as injudicious and improvident. These grains are used extensively as hog feed, boiled with apples, pumpkins and potatoes. An important advantage is attained by the cultivation of these crops, from their early maturity, which affords a nutritious food for swine, at a season, when on most farms there is a general deficiency. Sown in May, the Indian Wheat may be harvested in August. An esteemed correspondent at Adirondac†

* Letter of J. G. Livingston. † A. Ralph.

speaking of this crop, remarks, "it makes excellent pork, and at a cheaper rate than it could be made with any other grain cultivated here." In that district the average crop of these grains is about twenty-five bushels, which is a higher product than generally occurs in the county. The idea formerly prevalent, of the necessity of sowing Buckwheat at an advanced period of the season, is repudiated in this county. The crop is found to succeed equally well, when sowed simultaneously with the usual spring crops.

Potatoes.—This crop has for several years gradually advanced in importance and in the extent of its cultivation, until in the language of an intelligent correspondent* "it has become, in 1852, *the* crop of the county." During a series of years the "disease" prevailed to a disastrous extent, impairing and in numerous instances causing a total failure of the crop. This circumstance produced an entire change in its tillage. Heavy, damp and highly manured land, which was formerly deemed indispensable to its successful culture, has been abandoned in the cultivation of the potato. It is now almost uniformly, planted upon light gravelly and sandy soils. Green and unfermented manures are rejected. Charcoal, ashes, lime and plaster are now the only fertilizers appropriated to the crop. These substances are either applied in the hill or to the growing crop. Experience seems to have confirmed the theory, that they are not only eminently efficacious as manures, but equally so as preventives of the rot. The potatoes of this region have not recently been affected by the disease, and although the change in the husbandry may have decreased the productiveness of the crop, it has immensely enhanced its quality. For several years previous to 1852, the potato crop of Maine, from which the eastern markets are chiefly supplied, had been generally affected. The exemption of the crop in the Champlain Valley from the disease, and its great excellence, created an active and extended demand in the Boston market. The railroads, then just completed, opened an easy and available medium of transportation. A similar demand soon existed in New-York. Stimulated by these causes, the prices of potatoes

* A. B. Mack.

rapidly advanced, until in the spring of 1852, they commanded sixty two and a half cents per bushel at the wharves and stations upon Lake Champlain.*

By a most fortunate coincidence, this new and unexpected resource to the agricultural community, occurred at a period when the declension of the iron interest had thrown a dark pall over the industrial affairs of Essex county. The large amount of funds diffused by these means into general circulation, afforded an immediate and essential relief to its pecuniary concerns. Excited by these circumstances, many hundreds of acres, beyond the ordinary crop, were planted to potatoes the present season. The foreign demand has ceased, and the article in the spring of 1853, finds no demand except that formed by the usual home consumption, and at the starch factories. The market price afforded by these mills, does not exceed twenty cents the bushel. It is assumed, however, that this demand, even at such depreciation, will render the potato culture an important and lucrative branch of husbandry, when its proximity will enable the farmer to transport his crop from the field directly to the factory. Various modes of tillage have been adopted in the cultivation of this crop, and different practices observed in the use of large and small seed potatoes, the planting whole or in parts, and in the drill or hills. An elaborate and very careful experiment made by a gentleman of Westport, with the Carter variety, in which he planted the smallest seed, and which resulted in a bountiful crop of large and excellent potatoes, seems almost demonstrative of the expediency of that system with this peculiar variety.† The experiment has been useful in another respect. This very choice and desirable potato, so often difficult in cultivation, produced equally, or nearly so, with the coarser kinds, while in the proceeds of several boat loads it was found to command in New-York, prices exceeding by one-third those of the common varieties. These

* In the year ending in the spring of 1852, Mr. Allen states, 10,000 bushels of potatoes were shipped at Port Kent: and 10,060 bushels at Port Douglass (J. Walpole). Vast quantities were exported from various other ports in the county, but I have not been able to procure the statistics.

† Mr. F. H. Jackson made a series of highly interesting and important experiments in the culture of this vegetable, on an extended scale, and with intelligent observation. I much regret that I have been unable to obtain a detail of the processes and results.

facts have excited an enquiry into the propriety of cultivating this potato for the southern and eastern markets.

The exhibition of potatoes at the Essex county fair of the last season, was of the highest character, and probably not surpassed in excellence and variety by any section of the State. The present average of the potato crop falls far below that which existed at the early settlement of the county. It then more frequently exceeded than fell below an average of three hundred bushels to the acre. The ordinary product, from the existing tillage, scarcely reaches one hundred and fifty bushels. The potato culture, near the Adirondac Works, appears to be eminently successful. They plant upon the newly burnt fallow, "and by thorough hoeing, once or twice, destroy the growth of cherry or raspberry, which invariably springs where the forest has been burnt."* This tillage yields an average product of two hundred and fifty bushels to the acre.

The potato in this county is promiscuously cultivated, with little discrimination in respect to varieties. The "Leopard," and a variety known as the "Moore potato," are the most approved kinds in common culture. The "Pinkeye," the "Peach Blow," and "Western Red," are extensively cultivated. Potatoes are much planted and with most satisfactory results upon turf dragged thoroughly, but without disturbing the inverted sward.

Corn.—This crop, in many of its relations, may be pronounced the agricultural staple of Essex county, and the basis of the rotation and renovating system of its husbandry. It has become, with carrots as a slight auxiliary, almost the exclusive medium by which green manures are incorporated with the soil. It is used in the preliminary preparation of the earth for wheat and oats. Corn is generally planted upon green sward, and this is perhaps the most approved process. When the land is deemed not sufficiently pulverized, this crop is occasionally preceded by peas or oats. Barn yard manure is applied as the judgment or ability of the cultivator may indicate. Many spread it upon the surface previous to plowing, and turn it beneath the inverted fur-

* A. Ralph.

row. The more prevalent and esteemed practice is now, however, to spread the manure, if not too coarse, after plowing, and to mingle it with the soil by thorough dragging. Plaster alone, or more judiciously united with ashes and a light mixture of lime, is applied, sometimes, in the hill, but almost universally upon the growing plant, immediately after it appears. The effect is most decided, communicating a rank and vigorous growth and healthful color to the plant, and vastly augmenting the product of the crop. No judicious farmer, I think, in the county doubts this result. No practice, novel or peculiar, is observed in the culture of this crop. The small eight-rowed is in general cultivation. An improved variety of the Dutton, distinguished by a small cob and for early maturity, has been recently introduced, and is deemed a valuable acquisition. Corn is favorably cultivated in most sections of the county. The towns of Newcomb and North Elba, and probably portions of St. Armand and Wilmington, are not at this period apparently adapted to the culture. It is believed, that this exception will not continue, when that part of the county has felt the ameliorating influence upon its climate which always attends the opening of the forests and the progress of improvement and cultivation. I have no doubt that the warm, loamy and vigorous soil of North Elba, may be successfully appropriated to this husbandry.

The stalks are usually cut up near the root, although the antiquated mode of topping still has its advocates and followers. When cut in the juice they form one of the most valuable ingredients for fodder, and are esteemed very nutritious and peculiarly congenial to milch cows. The use of the straw cutter immensely economizes the consumption of this article. Very productive crops of corn are not unfrequently raised upon old pastures, with no other application of manure than plaster and ashes. The reclaimed sandy lands, under this tillage, often yield fifty bushels to the acre. Corn is found, in this latitude, peculiarly adapted to these soils. If the harvest is not large, the land is cheaply tilled, the crop matures early and invariably attains the highest perfection. This crop is exposed to the same depredations of its common enemies which universally prevail, and I have derived from the practices of the county no new suggestions for its protection.

The introduction of the "corn planter" will tend very essentially to promote the cultivation of this crop, by the vast saving of time and labor it secures. It is asserted by those who form their opinion upon the result of actual experience, that the use of this implement reduces three-fourths the expense of the culture of corn. The usual period of planting extends from the 10th to the 20th of May. It is extremely difficult to assume an average of a crop of this character. In the whole county it will probably approximate to thirty bushels to the acre. Some entire towns would far exceed this estimate, while individual farms will exhibit twice that average.

Carrots, beets and turneps.—The culture of the carrot is yearly extending, and forms, in many districts of the county, a prominent article in the feeding and fattening material for stock. It is often favorably substituted for grain, as a feed for working teams. Beets are esteemed of great value, wherever they have been used as a provender for swine. The succulent leaves of this plant, are highly useful for this purpose. Each of these roots are peculiarly adapted to milch cows, equally as a nutritious food, and as possessing properties, which largely augment the product of milk. The exceeding hardiness of the carrot, which maintains its growth until the earth is frozen, eminently adapts it to the mountainous regions of the county. Its cultivation in these districts is extensive, and of the utmost importance and utility.

The "ruta baga" has become an uncertain crop. These failures, and a very general prejudice as to its practical value for stock, have produced nearly an abandonment of its culture. At the Adirondac works, this crop has been favorably cultivated, with a general yield of six hundred bushels to the acre.

The "English field turnep," is successfully and extensively tilled upon newly burnt fallows.

Flax is seldom cultivated, and I am not aware of a field of *hemp*, the last season, in the county, although formerly, very energetic efforts were made to effect its introduction. In the town of Minerva, flax is raised to some extent, and yields 200 lbs. to the acre, at the value of one shilling the pound.* It appears

*A. P. Morse.

from the journal of Mr. Gilliland, that this crop was largely cultivated, in his colony, prior to the revolution. From the tenor of a petition, dated 1st March, 1765, addressed by him to the "Society for promoting arts, agriculture and economy, in the province of New-York," it seems that institution was in the habit of "sending out to the poor settlers in the new territories, looms, spinning wheels, and reels," to promote the domestic manufacture of flax.*

Hay.—I have already discussed, incidentally, the subject of the grass culture of the county, in its various connections. This crop is of the first importance, and always commands a certain market, and at high prices. The product of hay, in the county, falls immensely below the consumption. A large amount of pressed hay, is imported annually, and is derived chiefly from Canada and Washington county. The price of hay is rarely reduced to $8, and often ranges from $15 to $20 per ton. The yield, is generally estimated, at an average of about one ton to the acre. The habitual sale of hay from a farm, of which the fertility is not preserved by other agencies, necessarily exerts a most pernicious tendency, and impedes, if it does not utterly destroy the progress and agricultural improvement of the land. The county embraces many tracts of aliuvial and natural meadows, which are annually overflowed, and their native fertility thus preserved, even when subjected to this deteriorating system. Some districts of upland, illustrated by the ridges in the town of Jay, which have been described, and of great original vigor, have been for many years, exposed to this practice of cropping, without exhibiting any apparent or essential exhaustion. The application of gypsum, is known to be most efficient in preserving the fertility of these tracts. The dust of charcoal, is believed to be still more active and enduring in its fertilizing effect upon this land. The aggregate area of meadow land in the county, and its relative productiveness, have been largely augmented, under the pressure of the demand for hay, and by the improved skill in its management.

* I have, with much interest, examined the original draft of this document, embracing highly valuable information in other respects. It contains the only evidence I have seen of the existence of the society referred to.

The hay consumed by the Adirondac company, formerly cost $30 per ton, delivered at their works. The fact is now established, that their own territory, in immediate proximity to their works, will yield all the hay, and of a most excellent quality, required for their consumption.

In the improved tracts of the county, the general estimate, assigns one-third to meadows, one-third to pasture, and the remainder to tillage and waste land.

Hops, are not cultivated as a field crop, in this county, although a very important one in the adjoining county of Franklin.

STOCK.

In no department of its husbandry has this county exhibited such decided progress, as in the quality and character of its stock. I cannot ascertain that a thorough bred animal was owned in the county, until about the year 1849. Grades of Teeswater and Durham had been introduced probably before that period. It now contains individuals of nearly every breed, that may almost maintain an equal competition with the stock of any section of the State. A race of horses almost indigenous to its soil is disseminated through the county, which combine properties of rare excellence. The high reputation of the Black Hawk horses has become widely diffused, and each year adds to their consideration. In no district have they been more extensively bred, or attained greater perfection than in this region. A new and wise policy in breeding has been adopted, tending in itself to advance the quality of the stock. The high prices of choice Black Hawks has mainly dictated this system. I refer to the appropriation of the best mares to the most valuable horses for the purposes of breeding. The effect of this custom is now witnessed in the prevalence of a family of horses not exceeded, if equalled, by any race in the Union. The owners of the original animal of this name, the great progenitor of the stock, claim a pedigree on the side of his sires, which extends to a horse imported by Gen. Delancy, in 1761, and embraces in his European ancestors, "Flying Childers," and the equally distinguished "Godolphin Arabian." The dam of Black Hawk is represented by his proprietors to have

been a three-fourths blood English mare, of great speed and excellence. Others assert that the residue of her blood, or a still greater infusion, was of the Canadian or Norman stock. This cross has doubtless communicated to the breed its eminent traits of vigor and endurance. The Black Hawk is himself a scion of the Morgan family. A fact illustrated by the whole progeny of this stock, seems to assert its pretensions to high blood. The decisive stamp of the marked and peculiar characteristics of the stock, uniformly exhibited by these horses, must denote a strong and well defined blood, which thus impresses its qualities upon an entire race; and not the result of an accidental cross, producing an individual of great excellence. A practiced eye seldom errs in distinguishing an animal of this stock. The original Black Hawk has a jet black glossy color, with a large flowing, wavy mane and tail; he is of good size, and larger than he appears, from the symmetry and almost faultlessness of his proportions. His action is free, graceful and vigorous. The qualities which pervade and distinguish this stock, is extreme docility and great intelligence, admirable symmetry, great vigor and endurance. They are conspicuous for speed as trotters, and immense capacity for the road, The perfect form, brilliant coat, bright and prominent eye, a heavy and waving tail, endow these amimals with exceeding beauty. A glossy black is the predominant color of the stock, although far from being exclusive. Almost faultless in their appearance and qualities, the strongest objection to this stock is the want of that size and physical frame that is required in a draught horse. Although the breeding of this stock has become so general in the county, as to almost form a distinct department of husbandry, the interest is undiminished, whilst the demand for them increases yearly, with ascending prices. Colts at four months sell promptly from $50 to $100; yearlings, from $100 to $1,000; older and choice stallions range in price from $1,500 to $4,500. The rearing of these horses is made a highly remunerative and prominent pursuit among the farmers of Essex county. The following is an excellent portrait of Black Hawk, the progenitor of the stock:

BLACK HAWK.

The antagonistic pretensions of a different branch of the "Morgan" and the "Messenger" breeds, have even here strong advocates. A horse of the "Eclipse" stock, and a thorough bred animal, the "Leopard," that received the second premium at the State Fair of 1850, owned in Clinton county, near the boundary of Essex, have left a considerable impression of their blood in the county. Fine animals of all this stock occur among the breeders.

Several remarkably fine Short-horns and Herefords have been introduced into various sections of the county, and are yearly extending in numbers and growing in popular esteem. A Short-

horn bull, known as "Alexander the Great," imported from the western part of the State, and now in the possession of Mr. Richmond of Moriah, would be distinguished in any herd as a nearly perfect and most beautiful animal. A number of very choice Devons were brought into the town of West Elba, by Mr. John Burn, in the year 1849. Several were exhibited by him at the county fair of 1850, and their rare beauty and remarkable appearance produced a strong sensation. The influence of their exhibition, led to the immediate purchase and introduction into the county of several superior animals of the breed. I am not aware of the existence in the district of a single individual of the Ayrshire stock. In the course of my survey, reference to the subject of that stock was continually made, and a strong desire manifested by the most intelligent farmers for its introduction. The important and salutary improvement in the general stock, so conspicuous in the county, is universally ascribed to the influence of the agricultural society. The exhibition of choice and rare animals which the fairs attract, arouses attention to their superior qualities. A competition and emulation has been excited that is introducing into the county a class of cattle, which will soon impress upon its stock the highest character.

It is apparent, from the table of the census returns, embraced in this report, that the wool growing interest of Essex county has already attained very considerable importance. The climate, the physical formation, the soil and position of this region will combine to render this territory one of the most eligible and prosperous wool growing districts of the State. Sheep thrive upon broken cliffs and rocky acclivities, where no other domestic animal, save the goat, could subsist. They browse and fatten upon the scanty bushes that mantle these positions, and upon the coarse herbage that starts from among the fissures of the rocks. The extended tracts of sandy plains, now waste and unproductive, are peculiarly adapted to sheep ranges. The light and dry soil is congenial to their habit and health, and they flourish upon the short and coarse vegetation that abounds on these plains, but is rejected by other stock. The term of foddering of sheep, is far shorter than that of other animals.

An experiment made by a person of unusual enterprise and sagacity,* upon the borders of this county, the last season, on a pine tract, has been marked by entire success, and will prove, it is believed, the initiative of a new system in this husbandry. He owned a wide extent of unoccupied sand plain, from which the wood and timber had been removed, but had received no subsequent tillage, although covered by a spontaneous growth of shrubs and natural grasses. He turned upon this barren, a thousand sheep, under the constant charge of a shepherd. The delicate sprouts, the grasses, and varied wild herbage, afforded them a healthful and nutritious food. At the close of autumn, the flock exhibited a thriving and improved condition. They were folded at night, on fields intended for cultivation, and by its fertilizing effect upon the soil, this management more than remunerated all the expense of their keeping. In five years, meadow lands can be formed by this system, that will yield all the necessary fodder for the flock. The territory of Essex county, embraces vast tracts, now worthless, that, by this agency, may be converted into productive sheep walks. The sheep proprietors of this region, have generally guarded their flock with great care and vigilance, from every infusion of Saxon blood. They show no trace of its existence, except in rare instances. It is apparent that most of the wool growers have not exerted an appropriate skill and judgment in promoting the improvement and progress of their flocks. Their sheep have been too much regarded as a subordinate interest. Many flocks, however, in the county, possess the highest qualities. That of the Hon. Eli W. Rogers, has been managed with great skill and success, and exhibits a combination of the choicest traits.

The flock of Mr. Hodgkins of Lewis, the basis of which is from $\frac{1}{8}$ to $\frac{1}{4}$ Saxon, and formed by an infusion of the French Merino and Atwood stock, can scarcely be excelled. This flock, as well as that of Mr. Rogers, combines, in a remarkable degree, weight of fleece, with extreme fineness, and great softness, luster and beauty of texture. They average over four pounds to the animal. Mr. Hodgkins informs me, that he finds his Saxon ewes excellent mothers.

*Peter Comstock, Esq.

Numerous other flocks, are scattered in the county, of great value and superior properties. The characteristics of these flocks are a sufficient fineness of wool for profitable sales, a weight of fleece produced by length of fiber, solidity of fleece, and a fullness of growth about the extremities, with a purity of wool and freeness from gum. The flock of the Messrs. Murdock, at Crown Point, numbered 1,450 head of fine sheep, when I saw them in August last. Other flocks range from 300 to 700 head. Crown Point, Essex and Willsboro' form the prominent wool growing districts of the county. A strong and general distrust of foreign importations has prevailed in the county. Recently, however, several carefully selected and superior animals have been introduced. A Silesian buck, by Messrs. Hammond & Baker, of Crown Point, from the importation of Mr. Sanford. A buck and several ewes from Mr. Jewett, by Paul B. Boynton, of Willsboro'. A buck respectively by Mr. Root, of Essex, Mr. Hodgkins, of Lewis, and Mr. R. S. Watson, of Port Kent, of a cross of the French Merino and the Atwood stock, are among the late acquisitions to the stock of the county.

The Bakewell, Cotswold and Southdowns, are attracting much attention. They have only very lately been introduced. Sufficient experience has been had with the Southdowns, to establish the fact, that they form an excellent cross with the grade Merino, where mutton is the primary object. This cross, is judged more judicious, than a grade between the merinos and long-wooled varieties. The issue of the latter, has generally proved light, coarse-wooled, and open fleeced, with no proportioned improvement of the size and quality of the animal. The ready and cheap access to the markets of Boston, and the southern cities, will render the production of choice mutton, a business of obvious and great importance to this county. A race of sheep, incidentally found in the county, and predominating in Canada, which are distinguished by long and coarse wool, large bodies and hardy habits, seem peculiarly adapted to a cross with the long and middle wooled sheep of England. This cross, it is believed, would produce an animal of the highest value for the shambles.

Dairy.—This business, has not received the attention that its great importance demands, and which would apparently have been suggested by the peculiar adaptedness of the county to the pursuit, and the high prices of its products. Numerous small dairies exists in the county, yielding, in many cases, excellent articles. That of A. B. Mack, of Westport, embracing about forty cows, is on the largest scale, and affords butter and cheese of the first quality. He makes cheese from the middle of April, to the middle of October. The smaller dairies devote about four months to that purpose. Butter, in most of them, is the prominent object, and always commands a certain market. The usual price of cheese in the county, is about 7½ cents, and the average of butter, about 15 cents. Nothing peculiar occurs in the manufacture of these articles. Native cattle, form a large proportion of the dairies. Various modes of keeping cattle through the winter prevails, but an increasing regard to their comfort and protection is generally apparent. The notes of a very competent judge, and successful manager, contains the following statement: "I have sometimes kept an entire stock of cattle, upon straw and coarse fodder, without a pound of hay, by giving them regularly, about a peck of potatoes each per day. My cows, under this treatment, invariably, come out in the spring in as good condition, as when I feed them hay." *

Calves are raised to some extent throughout the county, but no unusual feature in their management is observed. The great importance of the dairy products, and the value of milk in pork making, limits the rearing of calves. Large numbers of cattle are yearly sold for the eastern and southern shambles. This disposition of neat cattle, is considered more profitable and judicious, than slaughtering them for home consumption. Pork, among the laboring classes, in this region, being much more esteemed than salted beef, as an article of food. Twenty-five dollars is the average value of neat cattle, at three years old.

HUSBANDRY.

The last three years, have been distinguished by a more decided progress in the agricultural interests and character

* J. G. Livingston.

of the county, than has occurred within any period of twenty years, in its preceding history. The lumbering business is nearly terminated within its limits. The unprecedented depression, during that term of its great manufacturing staple, which extinguished nearly all the fires of its forges and furnaces, arrested the ordinary persuits of thousands of its population. This attitude of the affairs of the county, so deplorable and ruinous in most of its aspects, has supplied the laborers required in the operations of agriculture, and created the necessity of their embracing its occupations for support. These causes have diverted the feelings, the interests and taste of this community, from other pursuits to agriculture. That has now become the permanent and paramount employment of many, who had previously regarded it as only secondary and incidental. The great and auspicious change, which is again impressed upon the manufacturing interest of the county, may remove this necessity, but the influence of the habit will endure.

I should be unjust to the services of the citizens, whose zeal has organized the agricultural society of Essex county, were I not to recognise its influence among the potent instrumentalities, which have promoted this advancement in the agriculture of the county. Its effect has been felt in every section, exciting emulation, arousing inquiry, creating effort, introducing science, and developing resources, and in elevating the position and character of the farming community.

These results have been promoted by various improvements in the system of husbandry, which have been effected by the farmers of the county. Rotation of crops is now regarded by every judicious manager, as an essential principle in the intelligent and progressive administration of a farm. A gradual, but most salutary change has been formed on this subject, in public opinion. Fields were pointed out, in the course of my survey, which, formerly for more than thirty years, had been devoted to an uninterrupted succession of corn crops. Most of the fertilizing resources of the farm, during that period, had thus been absorbed, in the production of one crop, from the same field. Under such a system of husbandry, and which a quarter of a century since was

so prevalent, meadows and pastures were equally exhausted and deteriorated. A uniform alternation of crops is now observed among the skilful farmers of the county, upon all lands, with occasional exceptions, where a favorable position, or the native qualities of the earth do not require the practice. The mode in this system of rotation adopted in the county, is assimilated to that generally pursued. When a decline in the quantity or quality of the grass on a portion of meadow land, or a tightness of the sward, or the presence of moss occurs, the ground is broken up, usually in the autumn. Upon this ley, a hoed crop is planted for one or two years, depending upon the tenacity of the turf. A crop of small grain succeeds, for one or two seasons, as circumstances require. With this tillage, the re-seeding of the land is effected. Although the fine grasses are generally preferred for the purposes of hay, the clover culture is associated with this system, as an important element in the improvement and renovation of the soil.

A rotation of crops is esteemed of the highest importance, when applied to light, sandy, and gravelly soils.* Many farmers familiar with the culture of these soils, assert that they may be maintained in a constant progression in fertility, by a close rotation, connected with a high clover culture. This tillage, when applied to the cultivation of pastures, is attended with the most beneficial results. It is well understood, that pastures, particularly those appropriated to neat cattle, become infested with bushes, acrid grasses, and other worthless vegetation. This fact is eminently exhibited in light sandy ranges. Experience demonstrates, that a rotation of crops is as efficient and useful when adapted to these pastures, as to meadow lands. Valuable crops are secured, the noxious herbage is extirpated, and not unfrequently, the amount of the succeeding pasturage is quadrupled in the process.

MANURES.

Manures are created and preserved with great economy and care. Upon many farms, the barn-yard and pig-sty, under improved management, yield twice the quantity of manure, which

*Letters of A. B. Mack, and J. G. Livingston.

was formerly produced by the same consumption of food. These results are attained by practices, familiar to all well regulated husbandry.

The analyses, I have introduced, manifest the existence of peat, or swamp mud of remarkable richness. It is diffused through the county in vast deposits. This material is attaining very extensive use, and is esteemed of great value in promoting the permanent improvement and fertility of the soil. It is prepared for efficient application to the earth, either when incorporated with barn yard manures, as a constituent of a compost, or after exposure in piles for a season, to the action of the elements. Mingled with lime, it rapidly decomposes, and is soon prepared for use. The first mode combines many important advantages. A prominent and obvious one, is formed by the great absorbent properties of the peat, through the agency of which, the liquid manures and the volatile gases are concentrated and essentially preserved.

Many of the appliances formed by a greater advance in agricultural science, and more extended pecuniary means, for the creation and preservation of manures, have not been introduced into Essex county.

Plaster, is in general use in the towns contiguous to Lake Champlain, and extensively in those of the interior. It has not been introduced into some of the more remote sections of the county. My own observation, corroborates the opinion of intelligent farmers, which ascribes to the application of this material, the most useful and important results. Broadcast upon meadows and pastures, its beneficial effects seldom fail. Light and dry soils, are usually more decidedly affected by its powerful, but misterious influences. Wet seasons, are regarded the most congenial to the development of its fertilizing principle. I have, in other places, noticed its application to specific crops. Those to which gypsum is most successfully applied, are corn, potatoes, beans and peas. Its use upon grass, in alternate years, is the most usual and approved practice. Several of the responses to my inquiries on this subject, impute to the use of plaster, an increase of one-

half, to the product of many crops. Gypsum, in a prepared state, is sold by the local mills and importers, at about $8 the ton.

We have seen, that the county contains mineral fertilizers, in inexhaustible quantities, analogous in character, and scarcely inferior in efficacy to the gypsum of the West.

Charcoal.—Enormous masses of the dust, or detritus of the charcoal, accumulate about the iron works of the county, and create incumbrances and deformities. It has been annually spread in vast quantities, along the highways, constituting an admirable material for roads. An incalculable amount has been cast into the streams. The attention of men of observation and sagacity, has been, within a few years, drawn to the use of this ingredient, as a fertilizer. Experience has established its exceeding utility. In the midst of the disastrous drouth of the last summer, while crossing a field in Moriah, occupied by Mr. Richmond, in pursuit of some Durham cattle I wished to examine, I observed a lot, with its surface deeply and singularly blackened. Upon inspection, I found it thickly strewn with pulverized charcoal. The field presented a rich verdure, strongly constrasting with the parched and blighted aspect of the adjacent country. The following detail of this experiment, supplied at my request, attests the value of this material, as a fertilizing principle: "The soil is loamy; the charcoal was applied on four acres of dry land, and one acre of moist soil, by top dressing. The amount used, was about one thousand bushels to the acre, spread over so as to make the surface look black, but not to incumber or obstruct vegetation. It was applied, in September and October, 1850, at an expense, by contract, of forty dollars. It was procured at a furnace, from a mass of pulverized charcoal, left as useless, and was drawn one mile and a half. The effect was immediate. The grass freshened, and continued green and luxuriant, after the surrounding fields were blackened by the early frosts. Although the last season has been so unfavorable for vegetation, Mr. Richmond realized one-third more than the ordinary yield of hay, and sufficient to repay the whole outlay. He thinks that he cut nearly double the quantity of grass, on this lot, than upon any similar

meadow upon his farm, and that the quality of the hay is improved." *

The Hon. J. S. Whallon, has made the most decisive and valuable experiments on this subject. His operations extended through several seasons, and were observed with great intelligence and discrimination. The results amply sustain the conclusions derived from the preceding experiment. I may add, that a similar application of charcoal has been made, under Mr. Whallon's supervision, upon another tract, in Elizabethtown, on a soil of a lighter texture, and with entire success. In this instance, the charcoal was chiefly applied to a crop of oats. The action of this substance, seems to be effected by its physical combination and its chemical affinities. It attracts the rays of the sun, and unites with the fertilizing gases of the atmosphere; it absorbs moisture, and combines, as a new constituent, in the formation of the soil. Almost imperishable, it must remain indefinitely, with no exhaustion of its properties, a perpetual invigorating agent in the earth.

The succeeding extract, from a communication of Mr. Whallon, elucidates his experiments and views on this very important subject: "I began the use of it in the year 1846, and first applied it as a top dressing, on a strong clay soil, which was plowed in the fall of 1845; I spread on about fifteen wagon loads of the dust to the acre, after the wheat had been sowed and harrowed one way. I was surprised to find my crop a heavy one, compared with my neighbors, raised on the same kind of land. The wheat was of better quality, and yielding four or five bushels extra to the acre. I have since used it on similar land, sometimes mixed with barn-yard manure, and sometimes alone, but always as a top dressing, and usually on land seeded for meadow. The results were always the most favorable. I find my lands thus seeded, produce more than an average crop of hay, and always of the finest quality."

"I have also used the dust on loamy and intervale land, with the potato crop. During the series of years in which the rot almost ruined the potato crop, I scarcely lost any potatoes from that cause, and supposed it was owing to the coal dust I used. My

* J. P. Butler's letter, December, 1852.

manner has been to drop the seed and cover it with a small shovel full of dust, and then cover with earth. In this way, I have used all the coal dust I have been able to save from the coal consumed in a forge of five fires, and which amounts to about 250 loads per year."

In the colder regions of the Adirondacs, charcoal dust has been used with great advantage. The notes of Mr. Ralph present the experiment in the following language: "As a top-dressing for meadows, charcoal dust and the accumulation of ashes and burnt earth left on old charcoal pit bottoms, have been used here with remarkable results; and I judge from the trials which have been made, that this application has added at least one third to the hay crop, where it has been used. It was remarked, (during the past very dry season, when vegetation was almost burnt up by the long continued drought,) that those fields which had been dressed with this substance, were easily distinguished by the rich green color of their herbage."

Lime.—We have seen that lime is disseminated through the county in boundless deposits. The various analyses of Prof. Salisbury indicate a remarkable and rare richness in its combinations and properties which adapt it to agricultural purposes. He pronounces it peculiar in these characteristics. The results of the experiments I have already noticed, illustrate its great practical utility, although its uses in husbandry have been very limited in the county. The recent analyses and discussions on the subject of this material, have given the public mind a strong direction of inquiry into its value and uses. It may safely be assumed that this rich and abundant element of agricultural improvement will no longer slumber, unappropriated, among the rocks of Essex county.

The experience of Mr. A. Stevenson, of Westport, affords some valuable results and judicious suggestions. He remarks in a correspondence on the subject, "I have always found that lime, when applied to the wheat crop, made a decided improvement in the yield, and also in the quality. The effect was the same when applied to the corn crop with manure, and upon the potato with or without manure. I will mention an experiment or two. Having

measured off an acre of land, I drew trenty-five loads of manure on it, in which, ten days before, twenty bushels of lime had been mixed. The crop was hoed twice, and I harvested one hundred and fifty bushels of sound ears of corn, almost double the yield of the remaining part of the field. I planted three acres of potatoes in the same field, and gave them the same culture. One of the acres was limed by putting a handful in each hill. I obtained from the acre which was limed as many potatoes, and of a larger size, than from both the other acres combined."

The same highly intelligent correspondent assures me that he finds lime a perfect protection to the onion, from the ravages of the maggot, which have almost terminated, in this region, the culture of that vegetable.

No extended or appropriate experiment has been made in the county with the phosphate of lime; but where it has been tested on a limited scale, the result has been eminently favorable and satisfactory.

Draining.—An increasing attention to this important feature in progressive husbandry, is a significant index of the advance of the county in agricultural science. I have observed, in my survey, amazing effects, resulting from this operation, where a single drain had changed the whole character and qualities of the soil, in an area of many acres. The evidences afforded by this practice (as well as the regard exhibited to the use of peat, and the formation of composts,) of agricultural progress, is in no section of the county more prominently presented, than in the fertile valley of the Schroon river. Every season, for a series of years, has witnessed a great extension of these works. Open ditches are in more general use, although covered drains are often constructed of stones, bushes or wood. I have no information of tiles having been introduced into the county.

PROTECTION OF STOCK.

In this respect, a very signal and salutary change has occurred in this county. I found the instances rare, in which the importance and economy of a vigilant protection of stock, from cold and storms, were not felt and adopted in practice.

Barns and sheds are now generally constructed, in reference to this object. I feel it just and proper to state, that I examined in North Elba, some of the best arranged barns and sheds in the county. They are capacious and convenient, carefully battened and lined, and admirably adjusted in the interior, to secure the comfort and safety of the animals. I saw stables in that town, in which I was assured manure had not frozen, during the intense severity of the preceding winter.

IMPLEMENTS.

This county has not sustained an equal progress in the introduction and use of labor saving and improved implements, as in many other branches of its agricultural improvement. The cultivator, corn-planter, and subsoil plow, are in the hands of individuals, but do not occupy that prominent position in the husbandry of the county, demanded by their vast utility and economy. Wherever they have been tried, I find the strongest attestation to their great value and efficiency.* The exhibition of these, and analogous utensils at the county fairs, have made them familiar to the agricultural community, and they are gradually extending through the county.

PLOWING.

I have fully, though incidentally, discussed this subject in several appropriate divisions of this report. A general but far from universal absence of deep and thorough plowing, may be regarded as one of the prominent defective characteristics of former husbandry, still lingering in the agriculture of Essex county. Late fall plowing, of green sward, is deemed advisable in

* An incident illustrates forcibly this fact: Passing the farm of Mr. Bean, of Crown Point, at a time when vegetation was excessively parched and withered, I was struck by the great contrast presented by the luxuriance and verdure of his field of corn, to the general appearance of the crop in the vicinity. Observing near his barn, a large compost heap, I conjectured that I had detected the secret of his success. It was not, however, until I found him subsoiling another lot for a wheat crop, that I discovered the entire solution of the mystery. Mr. Bean assured me that "while the leaves of the corn about him were generally rolled together like a scroll," his crop had exhibited no effect of the drought, except slightly on the extremities of the land. He regarded this circumstance as affording the strongest evidence of the utility of the system, as in these parts of the field, the work of sub-soiling had been less effectually performed, owing to the natural balking of the team. Although some of Mr. Bean's neighbors objected to his propensity to book farming, all accorded to him pre-eminent success n procuring superior crops from a soil of an original inferior quality.

ordinary circumstances, and is accomplished as far as practicable to advance spring work. This system is more uniformly appropriated to heavy and tenacious lands. The action of frosts and the elements upon the exposed soil tends, it is supposed, to pulverize and disintegrate the earth, while the gases formed in the decomposition of the inverted turf are evolved just at that period in the growth of the young plant, when their fertilizing influences are the most required to promote a vigorous vegetation. Many hesitate to pursue this mode on warm and light soils of sandy or gravelly formation, from the impression that the exposure of these soils to the elements will waste their fertility, and that the fermentation from the decomposing sward, which is so beneficial, occurs too early to aid the growing crop. The fresh plowing of stubble land, immediately before sowing, is preferred, as promoting a more rapid and vigorous growth of the crop, which anticipates and chokes the vegetation of noxious plants.

MARKETS.

The first agricultural products, derived from the labors of the early pioneer, were required to meet the wants of the succeeding settlers. The flouring mills at Vergennes, in Vermont, afforded a mart for the scanty excesses from the harvest of the colony on the Boquet. At a later epoch, when the wheat products of the county had attained some magnitude, Troy, and subsequently Whitehall, supplied a market for its trafic. It was transported to these places during the winter by trains of sleighs. At the opening of the canal, the Champlain valley had lost much of its freshness and fertility as a wheat-growing district.

Wheat, for a term of many years, had furnished to the settler the only means of liquidating the store accounts created for the supplies of his family. At times even this medium was refused, when destitution and often suffering followed. The price of wheat to the merchant in this trafic was usually seventy-five cents the bushel. Corn was generally exhausted by the domestic consumption, although it was occasionally exported into Canada in exchange for salt. Corn was worth, at the commencement of the present century, in some parts of the country, one shilling the bushel, or if transported a distance of thirty miles to Plattsburgh, commanded

twice that sum in the purchase of cotton cloth at fifty cents the yard.

The construction of the Champlain canal formed a new era in the affairs of this region. The fetters of position and seclusion which had bound its energies, were broken, and its native capacity received a vigorous and enduring impulse. The exactions and abuses of trade were controled.

This new avenue of commerce at once enhanced to the producer the value of those materials which were exported, and at the same time reduced the prices of the articles of consumption, which were imported. The canal, if it did not in its influences reveal the magnificent iron resources of the north, infused into their development animation and activity. The immense progress and expansion of this manufacturing interest, have cherished and advanced all the departments of agriculture. The progress of the one has essentially preserved an even pace with the prosperity of the other. The farmer of Essex has enjoyed a high privilege known to few agricultural districts. He possesses at his own threshold, a market for almost every product of his farm. The prices of nearly all agricultural commodities in Essex county are graduated upon the scale of New-York prices and often literally exceed them. The extensive manufacturing establishments spread along the valley of the Au Sable, create an immense demand for every product of the soil.

The Adirondac works, when in operation, afford a ready and certain market for all the commodities of the secluded interior towns, and were easily approached by winter roads. Local institutions, diffused in all sections of the county, supply a domestic market to every agricultural district. We have contemplated the beneficial influences upon the agricultural improvement of the county, which resulted from the temporary declension of the iron interest; but it must, in turn, have languished, if the stimulating influence of the latter, had been permanently extinguished. The resuscitated manufactories will find their increased demands, now met by greatly augmented capabilities; while the agriculture of the county will derive fresh impulses, from the renewed prosperity of the manufacturing interest. All

the existing farming capacity of the region is far inadequate to the supply of its consumption. A great proportion of the food of man and beasts, must still be imported. May it not reasonably be presumed, under these circumstances, that the vast area of rich and unoccupied territory, embraced in the limits of Essex county, and in the fertile region lying beyond its western borders, will soon be rendered subservient to the wants and industry of man.

FRUIT.

The Champlain valley is pre-eminently adapted in soil and climate, to the production of most varieties of the apple. The list of apples cultivated in this district, is very numerous, and the quality generally of the highest excellence.

Many old orchards still exist, which were planted at the first settlement of the country. The pioneer, usually, brought with his household goods, the bag of apple seeds from his New-England home, and the young orchard was among the earliest evidences of improvement and civilization. The perversion of this rich bounty of Providence, for a period, created a prejudice which led to the neglect of its culture.

The increased facility of intercourse, which has brought the Atlantic markets within a few hours of Lake Champlain, by a cheap and easy access, has created a new demand for the apples of that region, which cannot be exhausted. This fact has aroused the attention of all classes, and the cultivation of the choicest varieties of this frult, is largely extending in Essex county. It now promises to become one of the most extensive and lucrative branches of husbandry. In the year 1852, five thousand engrafted trees were purchased from abroad, and transplanted in the town of Crown Point alone. Other sections of the county perhaps, not in an equal degree, are engaging with great energy in the same occupation. It is found that a few acres, often of rough and untillable land, appropriated to this object, are more productive than many entire farms. The price of the best qualities of these apples, ranges from $1.50 to $2.25 the barrel.

The common seedling apples are much esteemed by many farmers, as a valuable food for swine, healthy and nutritious, in the first stages of fattening. Several of the best apples of this region, are derived from Canada. The "Fameuse," the choicest of autumnal table fruit, exquisite in its flavor, and a long keeper; the "Roseau" and the "Pomme Gris," have this origin. It is still a problem whether the "Baldwin," the first of New-England apples, will flourish in this region. It would be useless, and treading upon controverted ground with amateurs and nursery men, to designate among the new varieties, the most excellent classes. The standard kinds of former days, however, such as the Rhode Island Greening, the Spitzenbergh, Pippins, Gilliflower, and Pearmain, still maintain their pre-eminence.

The hardier species of the pear, are now cultivated with success. In the constantly improving skill and science which distinguishes fruit culture, the pear will, doubtless, soon be generally introduced.

The Catawba and Isabella grapes, are widely and successfully cultivated. The latter yields a most luxuriant and delicious product, growing open and unprotected. I saw bushels of this luscious fruit, hanging in unapproachable clusters among the top branches of trees, thirty feet in height, and with no protection from the rigours of the climate. The "McNeil" grape is a highly approved variety, indigenous to the region. Many other kinds, of a more delicate character, are made productive by careful management.

Plums are cultivated in numerous varieties, and of superior excellence. The Plum will probably be found, as congenial to this territory as the apple. The destructive ravages of the curculio, against which no sufficient protection has been discovered, have impeded the culture of this fruit. The season of 1852, afforded a great yield of the plum, with almost an exemption from the attacks of this insect. Nearly a total failure of the crop, occurred the previous year. Many extensive plum orchards, did not afford a single plum, while several preceding years, had been remarkable for

the prevalence of the curculio, and the general destruction of the crop.*

Peaches, Apricots and Quinces, are seldom cultivated, and only with extreme care and labor. None but the common cherry, has been extensively planted, although the choice varieties are gradually introduced, and with success.

An association, embracing both shores of the Lake, and designated the "Champlain Valley Horticultural Society," has been organized, which, under the direction of active and efficient officers, is exerting a decided and most valuable influence, in the advancement of this important pursuit.† The festivals of the society, have been distinguished by the great beauty and variety of the display in their floral department, while the exhibition of fruits, appropriate to the climate, is seldom surpassed. The collection of apples at the autumnal fair, in variety and excellence, is rarely equalled.

ANALYSES OF SOILS.

It was my purpose, to procure an examination of samples of all the prominent soils of the county. In selecting them, I intended to exhibit a type of each class, and not to procure specimens merely of such localities, as would give a false and inflated idea of the fertility of the county. I am not able to give an analysis of every variety of earth, but the tables of results already incorporated in this report, and which will now be introduced, nearly complete the series I desired.

I obtained two specimens of the soil, near the Adirondac works. These earths, are taken from, probably, the highest cultivated land in the State. The analysis will be regarded with interest on this account, and with surprise, at the high degree of native richness they present.

* Is not a remedy of this evil, suggested by these facts, to be accomplished by a careful destruction of all the fruit affected by the insect?

† The Rev. John Wheeler, D. D., is at the head of this valuable society, and is communicating a deep interest and usefulness to it operations.

Soil No. 17, Adirondac, has laid in meadow since the land was first cleared, nine years ago, and has never been manured. One hundred parts, dried at 212°, gave of

Organic matter,	25.12
Silica,	55.41
Alumina and iron,	17.22
Manganese,	1 04
Phosphoric acid,	0.32
Sulphuric acid,	0.07
Chlorine,	0.08
Lime,	0.13
Magnesia,	0.06
Potassa,	0.11
Soda,	0.26
	99.82

"This soil," Prof. Salisbury remarks, "is quite peculiar. Its analysis indicates, at present, a high degree of fertility. If cropped for a few years, however, it will begin to show symptoms of exhaustion, without any perceptible cause. That is, the crops will gradually decrease, while, at the same time, the land will appear to the eye quite as rich as ever. The bodies, which will first be exhausted in the soil, are lime, magnesia, potassa, chlorine and sulphuric acid. As these all occur in the ash of plants, and as in this soil there is an abundance of organic matter present, common hard wood ashes, will be the best and most economical manure for it, for many years to come. Even now, its fertility would be considerably increased by the yearly addition of small quantities of this material."

No. 18 is the same soil, in its primitive condition, without having been subjected at all to cultivation. Prof. Salisbury says, in reference to this, "I have not analysed No. 18; it seems to the eye to be considerably richer in organic matter than No. 17."

No. 20, is a sample of the soil embraced in the ledges of land in Jay, described in this report. It is taken from the farm of Daniel Blish. "The general appearance of this soil is quite different from No. 17; it is much less adhesive, and has much less

power for absorbing and retaining moisture. The microscope shows it to be quite silecious, and much less rich in organic matter than Nos. 17 and 18."

The analysis indicates a soil of about medium productiveness. One hundred parts, dried at 212°, gave of

Organic matter,	5.38
Silica,	82.34
Alumina and iron,	11.24
Manganese,	0.22
Phosphoric acid,	0.04
Sulphuric acid,	0.02
Chlorine,	0.05
Lime,	0.24
Magnesia,	0.13
Potassa,	0.14
Soda,	0.16
	99.96

"The sulphuric acid, lime, magnesia, potassa, soda, chlorine and phosphoric acid, of this soil, are in such small proportion, that the greater portion of them will be considerably exhausted in the course of a few years, by cropping without the addition of manures. The percentage of organic matter is also too small to indicate a soil of great productiveness and retentive power.

"The best and most available manures indicated by the above analysis, for the region where the soil lies, are barn-yard manures or peat mixed with hard wood ashes leached, or better unleached. The phosphate of lime, plaster, caustic lime, and guano, will all be found valuable applications."

The specimen marked No. 27, is from the "intervale" on the bank of the Boquet, upon the farm of C. A. Wakefield, in Elizabethtown, and is a type of the alluvial tracts which occur in the county. Prof. Salisbury says, "No. 27 is a very excellent soil. Under the microscope it is seen to be composed of quartz, mica, felspar and hornblende, with an occasional small particle of calcspar, and a few other minerals. It is quite rich in organic

matter, which gives to the soil a highly absorbing and retentive power. It is a superior soil."

One hundred parts dried, at 212°, gave of

Organic matter, ..	16.20
Silica,	70.68
Iron and alumina,	10.36
Lime,	1.10
Magnesia,	0.36
Potassa,	0.48
Soda,	0.28
Chlorine,	0.22
Sulphuric acid,	0 26
Phosphoric acid,	0.04
	99.98

The following is an analysis of a soil from North Elba, marked No. 31, sandy loam. This sample indicates the soil which forms the extensive and fertile plains in North Elba, which have been repeatedly noticed in the body of this report:

One hundered parts dried at 212°, gave of

Organic matter,	18.16
Iron and alumina,	6.74
Silica,	71.88
Lime,	0.54
Magnesia,	0.36
Potassa,	0 62
Soda,	0.24
Chlorine,	0.08
Sulphuric acid,	1.12
Phosphoric acid,	0.04
	99.78

"Under a microscope this soil is seen to be made up of the debris of primary rocks. Among the minerals are plainly seen quartz, mica, hornblende, and felspar. By reference to the analysis, the soil will be seen to be remarkably rich in organic matter.

This organic matter is in a finely pulverulent state, and communicates to the soil a highly retentive and absorbent power. Its quantity and state of decomposition imparts to the soil a dark rich brown color, which makes it a fine absorber of solar heat. It also contains a respectable quantity of all the inorganic bodies which enter into the composition of plants. The amount of these is sufficient, considering the fine state of division of the soil at present, to give a good degree of fertility to the soil. A few crops, however, so diminish those portions of the lime, magnesia, potassa, soda, sulphuric and phosphoric acids and chlorine, which are soluble, as to decrease perceptibly its fertility. It is, however, a soil which can be easily kept in a high state of fertility, by simply adding each year the small quantity of ingredients that are removed by the crops. Essex county furnishes all the material requisite for this purpose in her phosphate of lime, marl and peat deposits, and common wood ashes."

The earth represented by No. 39, is taken from premises in Chesterfield. This soil, with every appearance of fertility, by a casual inspection, is remarkable for an inertness, which manures but slightly stimulate. By the analysis of Professor Salisbury, it contains the following components:

Organic matter,	2.78
Silica,	84.70
Oxide of iron, and aluminum,	10.78
Lime,	0.38
Magnesia,	0.16
Soda,	0.26
Potassa,	0.34
Chlorine,	0.18
Sulphuric acid,	0.12
Phosphoric acid,	0.02
	99.86

The sample, No. 38, is an average exhibition of the elements of the sandy soils of the county, in their uncultivated state. One hundred parts deprived of water, gave of

Organic matter,	2.64
Silica,	90.70
Oxides of iron and aluminum,	3.96
Lime,	0.44
Magnesia,	0.38
Soda,	0.72
Potassa,	0.23
Chlorine,	0.09
Sulphuric acid,	0.11
	99.63

No. 13 was taken from the drift formation in Elizabethtown, on the premises of Mr. Nicholson, and exhibits the character of probably the lowest grade of soil. It is a sand, but is far from representing the qualities of the sandy soils so profitably cultivated in different sections of the county. "One hundred parts of soil dried at 212°, gave of

Organic matter,	7.48
Silica,	68.46
Iron,	14.28
Alumina,	3.16
Manganese,	1.46
Lime,	3.14
Magnesia,	0.06
Potassa,	0.78
Soda,	0.34
Chlorine,	0.06
Sulphuric acid,	0.12
Phosphoric acid,	trace
Arsenic,	0.01
	99.35

"This soil is very peculiar, on account of its containing a large percentage of iron and manganese, and a small quantity of arsenic. The presence of arsenic would indicate, that the soil is not very well calculated to support a vigorous and healthy vegetation."

APPENDIX.

Note A.

I insert the following interesting document, which is a literal transcript of the original draft of a memorial to Congress by Mr. Gilliland, that I found among his papers. I preserve it, because it throws important light upon the colonization of Essex county, and the progress and period of its first agricultural improvements, and because it is illustrative of the events and sufferings of the revolution, but more especially from the exhibit it contains of the conduct of Arnold, and its singular and prophetic comments upon his character. I am able to fix the date of the instrument, as in the summer of 1777.

To the Hon'ble members of the
Continental Congress

The Memorial of William Gilliland late of Willsborough on the west side of Lake Champlain

Most Humbly Sheweth.

That in consequence of near twelve years, close application, deligence & industry & at very great expence, your memoralist, accomplished his arduous undertaking of forming & establishing, the first English settlement ever attempted, in the dreary wilds of Lake Champlain, then almost a hundred miles from any Christian neighborhood. That, besides his own improvements on three several farms, your memoralist had 98 other Inhabitants on his land, who were very considerably indebted to your mem'ss; the preservation of whose crops, being the only prospect of payment which your mem^st^ had

That from some discoveries, which Gen Carlton made of your mem^st^ political sentiments in June 1775, he offered a reward of

five hundred dollars to any person that would take your memst & carry him prisoner to Canada; that several attempts were made from time to time to accomplish this without effect; sundry parties having been obstructed, & the only party who got the lenght, having been made prisoners by your mem^{s} & sent bound to Gen Schuyler, tho well provided with a blunderbuss & six other fire arms.—they were headed by Sheriff White of Tryon county, consisted of 4 Tories & 3 Savages & were to join the enemy at S^{t} Johns, where White was to have raised a company to join Coll M^{c}Leans emigrants. That your memst has reason to think that he was the first person who laid a plan for & determined upon seizing Ticonderoga, C Point and the Kings armed vessel, & therewith the entire command of Lakes George & Champlain. That by means of your mem^{s} an unhappy dispute, w^{h} subsisted between M^{r} Allen and M^{r} Arnold (the then rival Heads of our handfull of people on L Champlain) was composed. In consequence of w^{ch} your memst (besides several other matters) took the Liberty of recommending to your Honors, the embodying the Green Mountain boys. Coll Allen delivered the letter—

That your mem'^{s} property to the amount of several hundred pounds, is stopped by the ministerial troops in Canada, because of his known attachment to the glorious cause of American independence, now at stake. That your mem'st having entertained good opinion of Mr. Arnold, did his utmost endeavors, with a committee from the congress of Mass., to have him continued in the command at C Point; and after he was turned out of the service, your mem'st was the means of procuring credentials for his being reinstated, by furnishing him with the unanimous voice of the civil and military in the northern department in his favor, by an address which was drawn up by your men'st and presented to him for that purpose; w'ch was the chief friend he had to introduce him to the fav'r of the prov'l Congress and of Gen. Washington, when it was expected by many, that he would have met quite a different reception.

That, by means of your mem'st our army were supplied with as many water craft as transported several hundred men from C. Point to Canada, whither he conducted Gen. Montgomerey safe,

from his better knowledge of the navigation, than perhaps any other person then with that Genl. That in testimony of your mem'st warm attachment to and hearty affection for your northern army, he embraced every opportunity of rendering them all the encouragement in his power. From the Gen'l down to the centenel, he has entertained 3 or 4000 men at his own expence—he never charged a shilling for vegetables, salmon, milk or any thing else he had to spare them—has complemented them with 1500 salmon in one season; has supplied a numerous company under Capt Lamar with bread and meat as long as he or his settlers had a pound, during a long stay w'ch they were obliged to make at his place, and thereby reduced his and the families of his tenants, to sufferings they were before unused to; had every deserter that appeared in his settlement taken up and sent to the army; has lain weeks together on straw in a com'n room, that sick and wounded officers and sold'rs that were sent to or stopt at his house might be more comfortably accommodated, sometimes taking them to Ticonderoga (45 miles distant) at his own charge, and had every sold'er who died in his settlement inter'd in decent coffins, with the honors of war.

The only association agreement enter'd into; the only company of minute men formed on either side of Lake Champlain yr mem'st established on his settlement; and for example sake, stood in the ranks himself, and did his utmost endeavors to introduce the like among all the other settlements at or near the lake, and finally every 3d man of his tenants enter'd into the countrys service. That, shortly before the retreat of our army from Canada your mem'st was intimidated by frequent alarms and thereupon removed his children and most valuable effects to Crown Point and returned to save his and his tenants crops; intending to have them removed to Ticonderoga as soon as preserved; that in the interim Gen. Sullivan having retreated with the army from Canada, he told your mem'st how much his sick stood in need of our milch cows and beef cattle, that your mem'st did not wait for Gen. Sullivan's compulsive orders (which were afterwards given) to enforce our removal, but had about 100 head removed to C. Point immediately, not doubting that he should be paid their value aggreea-

bly to the Genl promise; but was most unexpectedly disappointed by the injustice of the commissarys—one of whom said, that now your mem'st cattle were there, 'twas in his power to take what advantage he thought proper in the price of them; and another offering only $\frac{1}{8}$th part of their real value.

That, the crops belonging to your mem'st and his tenants, being of very considerable value, and their preservation of much importance to our army, he apply^{d} for, and obtained from Gen. Gates, a small party of men to secure and preserve the same, for which purpose he returned home with the party to prosecute the business; that during the time of his stay at his settle', Major Hay, A D Q M G came to his place and made a firm agree't with y^{r} memst for the whole, agreeable to the account herewith, which your memst has frequently applyed for payment of, to the Gent, whom your honors have been pleased to appoint commissioners for liquidating ac^{cts} without effect; by which your memst has obtained very considerable loss; as by his having had it in his power to employ that sum in trade, the benefits arising would no doubt have kept pace with the depreciation in the value of money. Shortly after entering into the above agree't, your memst fully determined to remove himself, his slaves, stocks, crops and such portable furniture and tools as remained behind, to Ticonderoga; made a kind of cellar in the woods, in which he hid away his saw and grist mill irons, and a great variety of other irons, and some steel; in value at that time, not less than £200; loaded two batteaux with household stuff and other articles, and brought them and his whole family then remaining, to the house of one of the tenants, 3 miles south from where your memst then lived; only waiting for a northerly wind to favor their passage to C. Point; for which purpose y'r mem'st had the boats hauled a good way up on the shore, without unloading them, keeping his people in the meanwhile closely employed in harvesting. Here y^{r} memst remained 2 or 3 days, not daring to stay at home, being there much more dangerously situated should an enemy come; during this period, Gen. Arnold then down the lake with the fleet, in reward for your memst zeal in the cause, for the manifold services he had rendered our army, and for a

recompense of the eminent services he had rendered him, or rather to cancel all obligations due to your memoralist on that score, sent a party of soldiers to tear y^r^ mem^st^ away from his property, dignifying him with an officer for their commander, whose rank was so high as a sergeant, with private orders not to suffer him to remove any part of his property. By which means besides 28 dwelling houses, and above 40 other houses, two grist, and two mills, all our gardens, orchard fences, &c., &c., now left and exposed to the vindictive fury of ministerial vengeance, y^r^ mem^s^ is for the present divested of other property to the amount of £ ,* as per the annexed acc^t^ which he most humbly implores your hon^rs^ to have reimbursed in such manner, as in your wisdom and justice shall seem right. Gen. Arnold is your servant; all the power and authority he has, is derived from you, and that has enabled him to commit the acts of tyranny and outrage upon y^r^ mem^st^ and many others, whose complaints have been laid before you. It is not in mine, but it is in your power to bring him to justice. Bursting with pride and intoxicated with power to wh^ch^ he ever ought to have been a stranger, but wh^ch^ he has had art enough to obtain from you, he tyrannizes where he can. If temerity, if rashness impudence and error can recommend him to you, he is allowed to be amply supplied with these qualities and many people think they ought to recommend him in a peculiar manner to L^d^ North, who in gratitude, for his having done more injury to the American cause, than all the ministerial troops, have had the power of doing, ought to reward him with a generous pension—He used his utmost endeavors to prevent y^r^ mem^st^ from returning to his place to preserve and remove to Ticonderoga his crops and other property, and when passing y^r^ mem^st^ settlement with the fleet, brought them to anchor just opposite to it; suffering the most disorderly the most licentious fellows on shore, where in a few hours times they carried off or destroyed of my property to near the amount £ besides the outrages committed on our homes. I complain not, that by the breaking up of my settlement I am divested of an annual income of more than a thousand pounds; this is a misfortune, a calamity

*In another document verified by his oath, Mr. Gilliland exhibits a schedule, in which the aggregate of his various losses from the causes is estimated at £3,943 15 10. This I infer from collateral circumstances was sterling currency.

to which every person is subject whose situation is equally dangerous and whose political sentiments are as publicly known as were mine. On your love of justice, on the humanity and tenderness I believe y^r hon^ers to be possessed, do I entirely rely, on your taking this matter into your serious consideration. I solicit you not for a present pecuniary indemnification on that score, but being now entirely divested of all employment, which to an active mind is very disagreeable, I take the liberty of making you a tender of my services in such situation as I am qualified for in the promotion of the common cause of American Freedom; hoping you will be favorably pleased to honor me with such appointment as will not derogate from my former station; as shall enable me to support a numerous family of motherless children and in some measure be a compensation for the loss of my income. But in a peculiar manner y^r mem^st humbly entreats that y^r Honers will be favorably pleased to order payment for the crops y^r mem^st sold to the Q^r M^r Gen^l for the use of the army and restitution or indemnification for loss of personal property he sustained by means of Gen Arnold. This is the prayer of your mem^st and that your councels may be directed by wisdom, and your endeavours in this grand conflict may be forever blessed with the smile of Heaven

WILL GILLILAND

NOTE B.

"Expense of transporting a ton weight from N York to the boundary line between this State and the Province of Quebec on Lake Champlain.

Fre^t from New-York to Albany,	£0	16s.	0d.
Cartage and storage in Albany,	0	4	0
Land cartage from Albany to F^t George—storage, 64 miles, 2s.,	6	0	0
At F^t George,	0	1	0
Fre^t across Lake George,	0	16	0
Cartage to L. Champlain,	0	6	0
Storage at Lake Champlain,	0	2	0

Fre[t] to the Canada line,.....	1	0	0
Add for loss, wastage and contingencies wh cannot be foreseen,.....	1	7	0
	£11	0	0"

The foregoing is copied from a document found among the Gilliland papers, and exhibits an estimate of the price of transportation, as it existed the latter part of the last century. The average expense at this time of transporting a ton weight from New-York to Rouse's Point, is about $3, while the present economy in time contrasts equally with the reduction in the price.

NOTE C.

The following exhibits the school returns of the county for 1850. The returns since that year are so imperfect that a tabular exhibit cannot be compiled with accuracy.

ABSTRACT *of Common School returns of Essex county for* 1850.

	Whole number of school houses.	Amount received by districts the preceding year as by report of trustees.	Amount public money received by superin'ts from all sources during the year reported.	No. of volumes in district libraries.	Number children taught.	No. children exempt on account of indigence.	Amount raised by rate bills for teachers.	No. unincorporated select and private schools.	Average No. of pupils attending same.	Average No. of months school.
Chesterfield,	16	$662 00	$660 00	1,901	843	59	$756 08	1	30	6 1/4
Crown Point,	20	508 20	494 82	1,891	822	22	759 68	2	25	6 1/6
Elizabethtown,	11	393 43	267 12	864	476	28	191 41	1	25	5 1/2
Essex,	11	562 69	564 63	1,219	583	7	307 49	2	11	7 4/11
Jay,	9	840 02	798 03	1,515	826	3	405 33	1	16	8 5/9
Keene,	8	109 20	265 59	379	235	..	99 75	4	11	4 1/3
Lewis,	14	549 26	551 85	975	635	6	183 04	..	..	7 3/4
Minerva,	7	111 21	108 56	553	194	1	117 74	2	20	5 3/4
Moriah,	13	696 01	509 28	1,672	921	10	495 22	..	..	8 1/8
Newcomb,	2	41 87	41 37	111	46	..	199 23	..	..	6
North Hudson,	3	65 91	216 23	122	91	..	72 08	..	..	5 1/5
Schroon,	17	568 71	559 71	1,186	663	..	643 36	..	..	6 2/3
Saint Armand,	2	40 36	28 24	62	54	..	22 86	..	..	6 1/2
Ticonderoga,	13	515 60	505 32	1,568	659	2	353 53	2	25	6 1/6
Willsboro',	13	466 46	470 95	1,182	560	5	264 43	2	11 1/9	6 1/8
Westport,	10	873 16	458 28	1,813	758	33	285 54	3	11 2/3	10 1/6
Wilmington,	8	294 72	195 66	511	389	..	138 59	..	..	7 1/4
North Elba (no report),										

NOTE D.—STATISTICS.

Extract from the census returns of 1850, *Essex county, New-York.*

Number of dwellings,		5,320
Number of families,		5,448
WHITE POPULATION		
Males,	16,183	
Females,	14,915	
		31,098
FREE COLORED.		
Males,	35	
Females,	15	
		50
Total free population,		31,148
Number of deaths,		203
farms,		1,873
productive establishments,		199

I glean the following interesting statistics from the table published with the proceedings of the board of supervisors. The estimate of property is, as footed by the board, for 1851. The three right hand columns, which I introduce for the purpose of illustrating the fiscal progress of the county, exhibits the valuation of real and personal property by the census of 1825.

TABLE.

TOWNS.	Real.	Personal.	Total tax, 1851.	Real.	Personal.	Total, 1825.
Chesterfield,	$501,890	$172,865	$3,065 56	$93,045	$9,308	$102,353
Crown Point,	377,708	27,899	2,156 07	73,846	1,965	75,811
Essex,	433,974	136,428	2,148 14	119,291	16,930	136,221
Elizabethtown,	138,163	32,362	2,142 92	58,012	1,615	59,627
Jay,	219,875	44,450	1,847 39	67,350	12,212	79,562
Keene,	83,404	250	684 23	45,080	1,925	47,005
Lewis,	169,128	3,520	1,593 82	67,564	1,449	69,013
Moriah,	334,853	38,638	2,159 74	73,785	5,246	79,031
Minerva,	80,417	11,684	823 17	85,986	1,765	87,751
Newcomb,	52,940	9,070	570 91	.....	.....	.....
North Hudson,	58,765	2,334	655 35	.....	.....	.....
North Elba,	63,003	325	348 86	.....	.....	.....
Schroon,	251,236	4,557	2,152 39	111,387	778	112,165
St. Armand,	8,655	.....	495 75	.....	.....	.....
Ticonderoga,	390,587	37,656	2,282 49	110,578	5,988	116,561
Westport,	318,409	34,003	2,323 83	86,423	1,400	87,825
Willsborough,	329,895	42,995	1,886 46	105,857	3,535	109,292
Wilmington,	56,160	1,400	674 70	23,023	755	32,778
	$3,872,062	$601,436	$27,111 78	$1,130,227	$64,871	$1,195,098

The annexed are the statistics of Essex county, as compiled for the Red Book of 1852:

Acres of land, according to Burr's Atlas,	1,138,500
Acres of land taxed,	1,024,520
Assessed value of real estate,	$4,239,079
Assessed value of personal property,	709,552
Corrected aggregate valuation,	$4,942,935
Amount of State and county taxes,	$14,515 93
Amount of town taxes,	$13,071 32
Total taxation,	$27,587 25
Rate of $1 valuation, mills,	5.6

NOTE E.—ADIRONDAC IRON.

Extract from the report of Prof. W. R. Johnson, of experiments made on the Iron manufactured at the village of McIntyre, Essex county, New-York.

After presenting a detail of experiments, by which he tests and confirms "the freedom of this iron from the defects known either as *hot shortness or cold shortness*, and its softness and malleability, by the cutting and hammering incident to these experiments," Prof. Johnson continues, "the next step was to determine the absolute force of cohesion, together with the extensibility, when subjected to longitudinal strain, and the interior structure of the metal under various circumstances, including that of welding in the ordinary way."

For this purpose, five bars were drawn out and prepared from the specimens, numbered I, II, III, IV and V, each about nine or ten inches long one inch wide, and two inches thick.

No. I after being reduced to a nearly uniform size, throughout its length, was annealed at a red heat and allowed to cool slowly in the air.

No. II was *hammer hardened*, or beaten with moderate force throughout its length, until it had been for several minutes black, the hammer being occasionally moistened during the process.

No. III was forged out and hammered till it was only visibly red in day light, being left at about the temperature at which the

workmen cease their operations on many of the articles which they produce.

No. IV after being brought to a uniform size, was upset for about three inches in the middle and was then annealed and cooled slowly.

No. V was drawn out, cut in the middle and welded together. This sample was only $6\frac{1}{2}$ inches long.

All these bars were then carefully gauged both in breadth and thickness, at every inch of their lengths, before commencing the trials of tenacity. The machine employed in testing them, was the same which had been used in experiments made by the request of the Treasury Department on the strength of materials for steam boilers.

The following table will be understood without any other remark than that the breaking weights in the 5th column, are corrected for friction of the machine. The specific gravities of several of the fragments of each bar, after it had been broken up, are given under the head of observations, and may serve as well to illustrate the general character of the iron in this respect, as to indicate the effect of the several methods of preparation on the density of iron.

The following experiments confirm the evidences already adduced of the great toughness and ductility of this variety of iron. Besides the facts mentioned under the head of *Observations*, in the 7th column, we may add, that after the first fracture on each bar, a measurement was taken between two of the inch marks still remaining on one of its parts, and the following results obtained, viz:

No. I. In original length 6 inches, had elongated, .87 in., = 14.5 per cent.

No. II.	do	do	4	do	do	.2 in., = 5	do
No. III.	do	do	5	do	do	.6 in., = 12	do
No. IV.	do	do	4	do	do	.2 in., = 5	do

TABLE *of experiments on the tenacity of Iron.*

No. of the bar.	State of the bar.	No. of the experiment.	Area of section in square inches before trial.	Breaking weight in lbs., avoirdupois.	Strength in lbs. per square inches.	OBSERVATIONS.
No. I,..	Completely annealed.	1	.1890	10.175	53.820	Length before trial, 10 inches; after, 13.5; total elongation, 35 per cent.; specific gravity after trial, 7.685, 7.676, 7.668; mean, =7.676. After the 4th fracture, the area of section was .1064 in., instead of .1986 as at first; diminution, 46 per cent.: mean strength of this bar, 53.311. Greatest difference, .1706 lbs., =3.2 per cent. of the mean.
		2	.1929	10.288	53.336	
		3	.1954	10.345.05	52.945	
		4	.1986	10 374	52.235	
		5	.2036	10.972.05	53.941	
		6	.2057	11.029.05	53.604	
No. II,.	Hammer hardened.	1	.1980	12.967.05	65.492	Length before trial, $9\frac{1}{8}$ in.; after, 11 in.; total elongation, 20.5 per cent.; specific gravity after trial, 7.769, 7.756, 7.779; mean, =7.768; mean strength, 65.713. Greatest difference, .2348 lbs., =3.5 per cent. of the mean.
		2	.2019	13.053	64.650	
		3	.2000	13.399.75	66.998	
No. III,	Hammered until nearly black.	1	.1983	11.970	60.363	Length before trial, 9.5 in.; after, $12\frac{1}{4}$; total elongation, 28.94 per cent.; specific gravity after trial, 7.760, 7.778, 7.662; mean, =7.750. After the second fracture, the area of section at the point of the fracture, was .1176; diminution, 45.2 per cent.; mean strength, 58.912. Greatest difference, .2444 lbs., =4.15 per cent. of mean.
		2	.2551	12.454.05	57.919	
		3	.2163	12.768	59.020	
		4	.2213	12 910.05	58.339	
No. IV,	Upset in the centre and annealed.	1	.2086	13.110	62.847	Length before trial, 9 in.; after, 11.2; total elongation, 24.46 per cent. of original length; specific gravity after trial, 7.813, 7.731, 7.754, 7.634; mean, =7.733; mean strength, 63.142. Greatest difference, 7, —128 lbs., =11.2 per cent. of the mean. The last two results belong to the upset portion of the bar. The thickest part of the upsetting remained, however, unbroken.
		2	.2233	13.623	61.007	
		3	.2316	13.737	59.313	
		4	.2282	15.162	66.441	
		5	.2354	15.561	66.104	
No. V,..	Welded together near the middle, hammered till nearly black.	1	.1845	10.773	39.585	Broke outside of welding. The strength is about the same as in No. III.

To compare this iron with others, it is proper to assume bar No. III as a standard, that having been hammered to a dull red heat. The report already cited furnishes us with abundant data, derived from experiments, made with the same machine, on other kinds of bar iron in a similar state. Thus we have

	Strength in lbs. per square inch.
Iron from Salisbury, Conn., by a mean of 40 trials,....	58.009
Sweden, " " 4 "	58.184
Centre Co., Penn., " " 15 "	58.400
Lancaster Co., " " " 2 "	58.661
McIntyre, Essex Co., N. Y., by a mean of 4 trials, ...	58.912
England, cable bolt (E. V.), by a mean of 5 trials,.....	59.105
Russia, by a mean of 5 trials,.....	76.069

Hence it appears, that the last only, is essentially superior to the iron of McIntyre. These are among the best varieties of bar iron in point of tenacity. The fracture is of a light grey color, silky lustre, and generally displays a compact structure. It is worthy of remark, that most of the fractures took place in directions oblique to the line of tension, and making with it, either in the breadth or thickness, one or more angles of about 60 degrees each. The fibrous structure of the metal was very marked in cutting with the cold chisel, and was further developed by acids on part of No. III, on the surface of which delicate lines were shewn traversing a distance of several inches. The specific gravity, in an annealed state, it appears, was increased 1.2 per cent. by hammer hardening.

In conclusion, it may be observed, that as a large and increasing demand for good iron prevails in the United States, in proportion to the increase of finished and accurate machinery, requiring superior materials as well as workmanship, there can be no doubt that any quantity which could probably be produced, if possessing the properties of that above described, would command a ready market and the best of prices."—*Johnson's Report.*

Several other highly interesting experiments have been made testing the strength and tenacity of the iron of Essex county. That, especially, at the navy yard at Washington, was decisive in establishiag the fact of their possessing properties of great and superior excellence. I have made every effort to procure exhibitions of these results, but without success.

INDEX.

Civil and political history,..... 651
Discovery by Champlain,..... 652
Battle with the Iroquois, ... 657
Crown Point, occupation of, by France,..... 659
Mohawks captured Montreal, ... 662
Schenectady burned,..... 662
John Schyler's incursion to Canada,. 663
Dieskau's campaign, ... 665
Abercrombie's expedition, ... 671
Abercrombie's and Amherst's campaigns,..... 675
Colonization of Champlain valley,..... 681
William Gilliland's settlement,..... 686
Ticonderoga taken by Ethan Allen, ... 696
Proceedings from 1774 to 1784,..... 701
William Gilliland's personal history,..... 706
Emigration from New England, ... 708
Clinton county organized, ... 708
Essex county organized,..... 711
Increase of population from 1810 to 1850,..... 713
Settlement of the county from 1812, ... 714
Physical geography, ... 727
Mountains,..... 729
Lakes,..... 730
Rivers, ... 735
Natural curiosities; Indian Pass, ... 737
Wilmington Notch; walled banks of the Au Sable,..... 738
Split Rock,..... 740
Natural History; animals,..... 741
Fish, ... 745
Forests,..... 755
Reptiles,..... 759
Climate and meteorology,..... 759
Meteorological observations, ... 764
Mineralogy and geology,..... 771
Adirondac Iron district, ... 771
Moriah Iron district,..... 780
Old Sandford mine,. 781
Penfield mine; Hammond ore bed, ... 784
Little Pond bed, ... 785
Dr. Chilton's analysis of ore,..... 786
Black lead,..... 786
Black clouded marble,..... 786
Porphyry,..... 789
Copperas, analysis of, ... 792
Copper,..... 792

Water cement, ... 793
Paint, ... 794
Drift and diluvial formation, ... 795
Phosphate of lime, ... 797
Marl, ... 799
Limestone, ... 800
Peat, ... 801
Analysis of peat, ... 802–3
Mineral springs, analysis, ... 804–5
Industrial progress and resources, ... 808
Forges, rolling mills, &c., ... 817
Other manufactures, ... 823
Delafield, John, tribute to, note, ... 825
Iron ore, ... 827
Public improvement, canals, &c., ... 828
Ship canal, ... 832
Commerce on Lake Champlain, ... 833
Plank roads, ... 836
Railroads, ... 837
Marble, ... 837
Ship yards, ... 837
Sailors, ... 838
Commerce on Lake Champlain, ... 838
Agriculture, ... 842
Grasses, ... 844
Wheat, ... 846
Rye, ... 847
Oats, ... 848
Peas, ... 849
Barley, beans and buckwheat, ... 850
Potatoes, ... 851
Indian corn, ... 853
Root crops and flax, ... 855
Hay, ... 856
Stock; horses; Black Hawk breed, ... 859
Sheep, ... 861
Dairy, ... 863
Husbandry, ... 863
Manures, ... 865
Plaster, charcoal, ... 867
Lime, ... 869
Draining, ... 870
Implements; plowing, ... 871
Markets, ... 872
Fruit, ... 874
Analyses of soils, ... 876
Appendix; memorial of William Gilliland, ... 882
Common school returns, 1850, ... 889
Statistics, 1852, ... 892
Adirondac iron, ... 892

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